

**UNITED STATES DISTRICT COURT FOR THE
SOUTHERN DISTRICT OF NEW YORK**

IN RE LONDON SILVER FIXING, LTD.
ANTITRUST LITIGATION

14-MD-02573-VEC
14-MC-02573-VEC

This Document Relates to:

The Honorable Valerie E. Caproni

ALL ACTIONS

THIRD CONSOLIDATED AMENDED CLASS ACTION COMPLAINT

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Plaintiffs Norman Bailey, Robert Ceru, Christopher DePaoli, John Hayes, Laurence Hughes, KPFF Investment, Inc., Kevin Maher, Eric Nalven, J. Scott Nicholson, and Don Tran (collectively “Plaintiffs”), individually and on behalf of those similarly situated, bring this class action for treble damages, disgorgement, restitution, injunctive and other relief, against Defendants, for their violations of law from at least January 1, 2007, through December 31, 2013 (“Class Period”),¹ and, upon knowledge, information, belief, and investigation of counsel, allege:

SUMMARY OF ALLEGATIONS

1. Throughout the Class Period three of the world’s largest silver bullion banks—Deutsche Bank,² HSBC, and The Bank of Nova Scotia (collectively the “Fixing Members”)—and their co-conspirators dictated the price of silver during a daily, secret, and unregulated meeting known as the London Silver Fixing (the “Silver Fix”).

2. The Silver Fix was supposed to serve a “price discovery” function, determining the global benchmark price per ounce of silver (the “Fix price”) based on supply and demand fundamentals resulting from a competitive silver auction among the Fixing Members. Instead the Silver Fix, which was closed to outside observers and free from any regulatory oversight, was

¹ For purposes of this complaint, Plaintiffs adopt the class period as sustained by the Court in its Opinion and Order dated October 3, 2016, (“October 3 Order”) ECF No. 151. Plaintiffs respectfully reserve the right to appeal any adverse rulings from the October 3 Order. Any changes to this complaint based on the October 3 Order, including the length of the Class Period, the claims asserted or other changes are made without prejudice to Plaintiffs’ right to appeal any such rulings at the appropriate time.

² The claims against Deutsche Bank asserted herein are the subject of a proposed settlement which has been presented to the Court for preliminary approval. At such time as the proposed settlement is given Final Approval by the Court and the Effective Date achieved (as those terms are defined in the Settlement Agreement Plaintiffs and the Deutsche Bank Defendants entered into on September 6, 2016), the claims against Deutsche Bank will be dismissed in accordance with the terms of the Settlement Agreement.

used to both conceal and facilitate Defendants' agreement to manipulate and fix silver prices and the prices of silver financial instruments during the Class Period.

3. Plaintiffs incorporate factual allegations based on the more than 350,000 pages of documents and 75 audio tapes that Deutsche Bank produced as part of the cooperation provisions of its Settlement Agreement with Plaintiffs (collectively, the "DB Cooperation Materials"). The DB Cooperation Materials provide direct, "smoking gun" evidence of a conspiracy among the Fixing Members and several other silver market makers, including at least UBS, Barclays, Standard Chartered, Fortis, and Merrill Lynch, to illegally manipulate the price of silver and silver financial instruments at artificial, anticompetitive levels through multiple means.

4. **Silver Fix Manipulation**: The DB Cooperation Materials confirm that Defendants rigged the Silver Fix during the Class Period by, among other means, coordinating manipulative silver transactions in advance of the daily fixing call. For example, in the chat below Fortis Trader B, who also engaged in manipulative conduct while employed by HSBC (¶¶ 234, 281-6, 322) and Standard Chartered (¶¶ 286, 288-90) during the Class Period, conspires with Deutsche Bank Silver Fix Trader-Submitter A to "smash" the Fix lower through coordinated selling:

Deutsche Bank [Trader-Submitter A]: I got the fix in 3 minutes

Fortis [Trader B]: I'm bearish

Deutsche Bank [Trader-Submitter A]: Hahahaha

Fortis [Trader B]: Massively ... Really wanna sell sil

* * *

Fortis [Trader B]: Let's go and smash it together³

³ DB_PM_SLVR_0051080.

5. But the Fixing Members were not the only ones involved in manipulating the Fix price. The DB Cooperation Materials demonstrate that other Defendants, including UBS, also conspired to “smash” the Silver Fix in a direction that would financially benefit their silver trading positions. For example, in the chat below UBS Trader A and Deutsche Bank Trader B discuss how UBS “smashed” the Fix lower to benefit a short silver options position:

May 11, 2011

Deutsche Bank [Trader B]: . . . the fix dude u guys WERE THE SILVER MARKET

UBS [Trader A]: why u say that?

Deutsche Bank [Trader B]: haha on the fixes

UBS [Trader A]: someone told u?

Deutsche Bank [Trader B]: my ldn

UBS [Trader A]: ah ok

Deutsche Bank [Trader B]: u guys short some funky options

Deutsche Bank [Trader B]: well you told me too but i told no one u just said you sold on fix

UBS [Trader A]: we smashed it good

Deutsche Bank [Trader B]: fking hell UBS now u make me regret not joining

UBS [Trader A]: btw keep it to yourself⁴

6. These chats, and others like them, which demonstrate that Defendants manipulated the Silver Fix, are consistent with economic evidence showing a dysfunction in the normal competitive process of silver pricing during the Class Period. *See* Part III.A-E *infra*. Defendants’ use of illegitimate transactions to affect the Fix price also explains why the large

⁴ DB_PM_SLVR_0209648-50.

drop in silver prices observed around the start of the Silver Fix is both inconsistent with the competitive forces of supply and demand and unexplained by other macroeconomic factors.⁵ See Part III.F *infra*.

7. **Bid-Ask Spread Manipulation**: Manipulating the Silver Fix, however, was only one part of Defendants’ comprehensive scheme to fix the price of silver and silver financial instruments. The DB Cooperation Materials show that Defendants, some of the largest silver market makers in the world, also conspired to fix the “bid-ask spread,” *i.e.*, the difference between the “bid price” at which they offered to buy silver and the “ask price” at which they offered to sell silver, in the broader, public silver market. The chat below, for example, which involves Barclays Trader A and Deutsche Bank Trader B, depicts an anticompetitive agreement between the two Defendants to fix the spread at 7 cents for 50,000 ounces of silver and 10 cents for 100,000 ounces, *i.e.*, 1 “lac”:⁶

December 28, 2011

Deutsche Bank [Trader B]: bro i think we make 50k 7 cents

Deutsche Bank [Trader B]: 1 lac 10cents

Barclays [Trader A]: today?

Barclays [Trader A]: yea

Deutsche Bank [Trader B]: ok cause i was 7 cents

Deutsche Bank [Trader B]: think is too tight

Barclays [Trader A]: bro yday i made 300 oz \$1

⁵ See Andrew Caminschi, *Any Silver Linings? London Silver Fixing Impact on Public Markets Before and After the Introduction of Contemporaneous Futures Trading* (hereinafter *Silver Linings*), available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2461098 (finding multiple deviations in silver market behavior around the Silver Fix).

⁶ A “lac” or “lakh” is a unit in the Indian number system equal to 100,000.

Deutsche Bank [Trader B]: nice⁷

8. Multiple chats demonstrate that Defendants routinely discussed and agreed to quote artificial, anticompetitive spreads in the silver market during the Class Period, illegally increasing the profitability of their market making activities by systematically overcharging and underpaying Plaintiffs and other Class members who transacted in silver and silver financial instruments. *See* ¶¶ 230-43.

9. Defendants conspired to maintain these anticompetitive spreads by continuously sharing incoming and pending order flow and client information, including the prices they quoted to specific customers. Defendants used this illegally acquired information to enforce the artificial prices quoted by their co-conspirators in the event a client tried to avoid paying the cartel price by shopping around. For example, in one instance, after a customer refused to trade at a five-cent wide spread with Deutsche Bank, UBS agreed to enforce that spread by offering a worse price, explaining that “if they call me in 1 lac i will quote 7-8 cents.”⁸ This collusive misconduct removed competition from the silver market and maintained spreads at artificial levels throughout the Class Period.

10. **Coordinated Manipulative Trading:** Plaintiffs’ review of the DB Cooperation Materials has also identified at least six different manipulative trading strategies, referred to by code names like “muscle” and “blade,” that Defendants implemented to manipulate and maintain the price of physical silver and silver financial instruments at artificial levels during the Class Period. *See* ¶¶ 249-67.

⁷ DB_PM_SLVR_0195920.

⁸ DB_PM_SLVR_0199828-29.

11. Defendants coordinated their manipulative trading activity to maximize its impact on silver prices by, for example: (1) conspiring to execute large transactions when they knew the silver market was illiquid (¶¶ 257-58); (2) uneconomically buying silver to provide artificial support for prices at an agreed-upon level (¶ 257); (3) placing false “spoof” bids and offers to create the false impression of supply and demand where none existed (¶¶ 261-63); and (4) withholding pricing information from the silver market by entering secret, unreported transactions with other cartel members. ¶¶ 265-66.

12. To further increase their influence over silver prices, Defendants agreed to deploy these manipulative trading strategies according to their own set of rules and procedures. For example, UBS and Deutsche Bank silver traders agreed to follow the “11 oclock” rule, whereby they would short silver at the same time each day (*see, e.g.*, ¶ 253), and to use a countdown sequence—“3 2 1 boom”—to ensure their manipulative transactions were entered at the same time. ¶ 255.

13. Chats also show that Defendants often called for “reinforcement,”⁹ enlisting other silver traders to join the conspiracy by trading in the same direction as their manipulation, exacerbating the impact of their manipulative conduct on the price of silver and silver financial instruments. For example, UBS Trader A and Deutsche Bank Trader B recruited Barclays to join their “mafia” and manipulate silver prices as indicated in the conversation below:

June 8, 2011

UBS [Trader A]: im gonna sell a lil more we need to grow our mafia
a lil get a third position involved

Deutsche Bank [Trader B]: ok calling barx¹⁰

⁹ DB_PM_SLVR_0211650.

¹⁰ DB_PM_SLVR_0201897.

14. This coordinated manipulative conduct was intended to capitalize on the zero-sum nature of derivatives trading, including in COMEX silver futures contracts, and to extract illicit profits for Defendants from Plaintiffs and other Class members who held the opposite position. For example, as one UBS trader commented while planning a series of manipulative silver transactions with Deutsche Bank on April 1, 2011, “if we are correct and do it together, we screw other people harder.”¹¹ Thus, Defendants knew any profit resulting from their illegitimate trading activity flowed directly from harm caused to Plaintiffs and the Class.

15. **Sharing Proprietary Information:** The DB Cooperation Materials show that Defendants shared proprietary information about their silver trading positions to align interests with their co-conspirators and maximize the returns generated by their comprehensive scheme to fix the price of silver and silver financial instruments. *See* ¶¶ 274-312. Aligning silver positions incentivized cartel member to manipulate prices in the same direction and, as Barclays’ Trader A explained, ensured that “we are one team one dream”:

April 6, 2011

Barclays [Trader A]: you are short right

Barclays [Trader A]: haha

Barclays [Trader B]: we are one team one dream

Deutsche Bank [Trader B]: haha

Deutsche Bank [Trader B]: of course short

Deutsche Bank [Trader B]: short 1 lac

Barclays [Trader A]: nice¹²

¹¹ DB_PM_SLVR_0301637-38, 41.

¹² DB_PM_SLVR_0204208-9.

16. Defendants also illegally shared proprietary information about their incoming silver order flow heading into the start of the Silver Fix in order to coordinate illegitimate transactions in advance of the daily auction. For example, in the chat below, Deutsche Bank Silver Fix Trader-Submitter A and an unknown trader at Defendant Fortis Bank plan to enter manipulative transactions based on inside information regarding Deutsche Bank's silver order flow and intention to sell silver during the Fix:

August 22, 2007

Deutsche Bank [Trader-Submitter A]: SEEMS SOME BUYING PRE SIL FIX IN THE SYSTEMS

Fortis [Unknown]: WE'LL SELL 70'S TOGETHER

Deutsche Bank [Trader-Submitter A]: AT THIS RATE MATE WE CAN SELL 11.80'S BOTH MKTS ARE AS THIN AS IVE EVER SEEN THEM IN MY 5 YEARS OF TRADING THESE

Deutsche Bank [Trader-Submitter A]: ILL BE A LIGHT SELLER ON THE FIX SO WATCH YOUR SCREEN¹³

17. **Stop-Loss Triggering & Front Running**: This open exchange of information among Defendants described above and below facilitated other types of manipulative conduct, including for example coordinated trading to trigger stop-loss orders and front running.¹⁴ See ¶¶ 313-27. The Swiss Financial Market Supervisory Authority ("FINMA")¹⁵ disclosed this misconduct in a November 2014 report, which described how UBS and other Defendants would

¹³ DB_PM_SLVR_0272908.

¹⁴ A stop-loss order is a type of delayed order that is executed only when the price of silver drops to a certain level.

¹⁵ See *Foreign Exchange Trading at UBS AG: Investigation Conducted by FINMA*, FINMA (Nov. 12, 2014) <http://www.finma.ch/e/aktuell/Documents/ubs-fx-bericht-20141112-e.pdf> (hereinafter "UBS FINMA Report").

“jam” clients, triggering stop-loss orders, and front run silver transactions to create artificial prices for Defendants’ benefit.

18. The DB Cooperation Materials confirm FINMA’s findings and show that UBS routinely conspired with at least Deutsche Bank to trigger stop-loss orders. This practice was so common that the UBS and Deutsche Bank traders involved jokingly referred to themselves as the “STOP BUSTERS:”

June 8, 2011

UBS [Trader A]: and if u have stops....

UBS [Trader A]: oh boy

Deutsche Bank [Trader B]: HAHA

Deutsche Bank [Trader B]: who ya gonna call!

Deutsche Bank [Trader B]: STOP BUSTERS

Deutsche Bank [Trader B]: deh deh deh deh dehdehdeh deh deh deh deh dehdehdeh

Deutsche Bank [Trader B]: haha¹⁶

19. The DB Cooperation Materials, while extensive, are just the “tip of the iceberg” regarding Defendants’ manipulative conduct. Plaintiffs anticipate receiving additional documents and information from Deutsche Bank regarding Defendants’ conspiracy to fix the price of silver and silver financial instruments that will further support Plaintiffs’ claims. Additionally, investigations into the Silver Fix continue and both the fraud division of the U.S. Department of Justice (“DOJ”) and the U.S. Commodity Futures Trading Commission (“CFTC”) are still investigating at least 10 banks, including each of the Fixing Members as well as Defendants

¹⁶ DB_PM_SLVR_0201923.

Barclays and UBS, for rigging the precious-metals markets by manipulating, among other things, the Silver Fix.¹⁷

20. Given these ongoing government investigations into the Silver Fix, the direct evidence that has been obtained by Plaintiffs as a result of the Deutsche Bank settlement, and the significant amount of economic evidence presented in this Complaint, Plaintiffs believe that further evidentiary support for their claims, as alleged herein, will be revealed after a reasonable opportunity for discovery.

PARTIES

I. Plaintiffs

21. Plaintiff Norman Bailey (“Bailey”) is a natural person who resides in Ontario, Canada. Plaintiff Bailey transacted Chicago Board of Trade (“CBOT”) silver futures contracts, Commodity Exchange, Inc. (“COMEX”) silver futures contracts and options during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, Bailey was damaged and suffered legal injury resulting in a net loss on silver futures and options contracts transacted during the Class Period.

22. Plaintiff Robert Ceru (“Ceru”) is a natural person who resides in the State of New York. Plaintiff Ceru purchased and/or sold physical silver during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade and as a consequence thereof was damaged and suffered legal injury.

23. Plaintiff Christopher DePaoli (“DePaoli”) is a natural person who resides in the State of California. Plaintiff DePaoli transacted COMEX silver futures contracts, COMEX

¹⁷ See Jean Eaglesham and Christopher M. Matthews, *Big Banks Face Scrutiny Over Pricing of Metals*, THE WALL STREET JOURNAL (Feb. 23, 2015), <http://www.wsj.com/articles/big-banks-face-scrutiny-over-pricing-of-metals-1424744801>.

“miNY” silver futures contracts and options, and NYSE LIFFE mini silver futures contracts during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, DePaoli was damaged and suffered legal injury resulting in a net loss on silver futures and options contracts transacted during the Class Period.

24. Plaintiff John Hayes (“Hayes”) is a natural person who resides in the State of Florida. Plaintiff Hayes transacted COMEX silver futures contracts, CBOT mini silver futures contracts, and options on NYSE LIFFE silver futures contracts during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade and as a consequence thereof was damaged and suffered legal injury.

25. Plaintiff Laurence Hughes (“Hughes”) is a natural person who resides in the State of California. Plaintiff Hughes transacted COMEX “miNY” silver futures contracts during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, Hughes was damaged and suffered legal injury resulting in a net loss on silver futures contracts transacted during the Class Period.

26. Plaintiff KPFF Investment, Inc. f/k/a KP Investment, Inc. (“KPFF”) is a California corporation with its principal place of business located in Irvine, California. Plaintiff KPFF purchased and/or sold physical silver during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, KPFF was damaged and suffered legal injury resulting in a net loss on physical silver transacted during the Class Period.

27. Plaintiff Kevin Maher (“Maher”) is a natural person who resides in the State of New York. Plaintiff Maher transacted COMEX silver futures contracts and options during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and

restraint of trade. As a result, Maher was damaged and suffered legal injury resulting in a net loss on futures and options contracts transacted during the Class Period.

28. Plaintiff Eric Nalven (“Nalven”) is a natural person who resides in the State of Florida. Plaintiff Nalven transacted CBOT mini silver futures contracts, NYSE LIFFE mini silver futures contracts, and COMEX silver futures contracts during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, Nalven was damaged and suffered legal injury resulting in a net loss on silver futures contracts transacted during the Class Period.

29. Plaintiff J. Scott Nicholson (“Nicholson”) is a natural person who resides in the State of Washington. Plaintiff Nicholson transacted COMEX silver futures contracts during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, Nicholson was damaged and suffered legal injury resulting in a net loss on silver futures contracts transacted during the Class Period.

30. Plaintiff Don Tran (“Tran”) is a natural person who resides in the State of California. Plaintiff Tran transacted options on COMEX silver futures during the Class Period at artificial prices proximately caused by Defendants’ unlawful manipulation and restraint of trade. As a result, Tran was damaged and suffered legal injury resulting in a net loss on options contracts transacted during the Class Period.

II. Defendants

A. Deutsche Bank Defendants

31. Defendant Deutsche Bank AG is a German *aktiengesellschaft* with its principal place of business located in Frankfurt, Germany. It owns 100% of the equity and voting interests in Defendants Deutsche Bank Americas Holding Corporation, DB U.S. Financial Markets

Holding Corporation, Deutsche Bank Securities, Inc., Deutsche Bank Trust Corporation, Deutsche Bank Trust Company Americas, and Deutsche Bank AG, New York Branch.

32. Deutsche Bank AG was a member of the London Silver Market Fixing, Ltd. during the entire Class Period until August 14, 2014, when it withdrew from the London Bullion Market Association's ("LBMA") Silver fixing panel.

33. Deutsche Bank AG has a branch located in this District at 60 Wall Street, New York, NY 10005. This branch is registered as a foreign branch with the New York State Department of Financial Services ("NYDFS"). Deutsche Bank AG was a Non-Clearing Member Firm of the New York Mercantile Exchange ("NYMEX") and Commodity Exchange Inc., ("COMEX") during at least part of the Class Period.

34. Deutsche Bank AG filed its U.S. Resolution Plan on July 1, 2014 with the U.S. Federal Reserve Board, the Federal Deposit Insurance Corporation, and the Financial Stability Oversight Counsel because it has over \$50 million in U.S.-nonbank assets. Deutsche Bank AG designated eight U.S. material entities: Deutsche Bank AG New York Branch; Deutsche Bank Securities Inc.; Deutsche Bank Trust Corporation; Deutsche Bank Trust Company Americas; DB Services Americas, Inc.; DB Services New Jersey, Inc.; Deutsche Bank Americas Holding Corp.; and Deutsche Bank National Trust Company.

35. Defendant Deutsche Bank AG New York Branch is a wholesale branch of Deutsche Bank AG. It is licensed by the New York State Department of Financial Services and regulated by the Federal Reserve. Deutsche Bank AG and Deutsche Bank AG New York Branch are also regulated by the CFTC as registered swap dealers.

36. Defendant Deutsche Bank Securities, Inc. is a Delaware corporation and wholly-owned subsidiary of Deutsche Bank U.S. Financial Markets Holding Corporation, which is a

wholly-owned subsidiary of Taunus Corporation, which in turn is wholly-owned by Deutsche Bank AG. It is a registered broker-dealer and investment advisor with the Securities Exchange Commission and a registered Futures Commission Merchant and commodity pool operator with the CFTC. It is a member of the Financial Industry Regulatory Authority, the Securities Investor Protection Corporation and the National Futures Association, with 21 registered branches located throughout the U.S. and total assets of \$226 billion. It is a member of the New York Stock Exchange and registered with the CFTC.

37. Defendant Deutsche Bank Trust Corporation is a New York-chartered bank holding company regulated by the Federal Reserve and wholly-owned subsidiary of Deutsche Bank AG. It is a registered bank and financial holding company under the Bank Holding Company Act of 1956.

38. Defendant Deutsche Bank Trust Company Americas is a New York banking corporation and wholly-owned subsidiary of Deutsche Bank Trust Corporation, which is a wholly-owned subsidiary of Deutsche Bank AG. It is a licensed New York State-chartered insured depository institution regulated by the NYDFS, member of the Federal Reserve, an FDIC-insured bank, and a transfer agent registered with the Securities Exchange Commission.

39. Defendant Deutsche Bank Americas Holding Corporation is a Delaware corporation with its principal place of business located at 60 Wall Street, New York, NY 10005. It is a second tier holding company for Deutsche Bank AG subsidiaries in the United States.

40. Defendant DB U.S. Financial Markets Holding Corporation is a Delaware corporation with its principal place of business located at 60 Wall Street, New York, NY 10005. It is a second tier holding company for Deutsche Bank AG subsidiaries in the United States.

41. Defendants Deutsche Bank AG; Deutsche Bank Americas Holding Corporation; DB U.S. Financial Markets Holding Corporation; Deutsche Bank Securities, Inc.; Deutsche Bank Trust Corporation; Deutsche Bank Trust Company Americas; and Deutsche Bank AG, New York Branch, are collectively referred to herein as “Deutsche Bank” or “Deutsche.”

42. Deutsche Bank AG operates an electronic platform, Autobahn, which allows market participants to electronically trade commodities, including silver. Since 1996, Autobahn has provided 24-hour access to Deutsche Bank’s customers, including those in the United States.

43. Deutsche Bank was the fifteenth most active silver market maker during the Class Period, based on public silver quotes. *See* ¶ 200. This does not include trading through Deutsche Bank’s Autobahn service.

44. Deutsche Bank is a member of the unlawful combination and conspiracy alleged herein, from which, to Plaintiffs’ knowledge, it has not effectively withdrawn.

B. HSBC Defendants

45. Defendant HSBC Holdings plc is a British public limited company with its principal place of business in London. It owns 100% of the equity and voting interests in Defendants HSBC North America Holdings Inc., HSBC Bank (U.S.A.), N.A., and HSBC USA Inc.

46. HSBC maintains COMEX-registered silver depositories (vaults) in which it stores silver at 1 West 39th St., SC 2 Level, New York, NY, and 425 Sawmill River Rd. Ardsley, NY.¹⁸

¹⁸ *Ltr to David Stawick*, <http://www.cftc.gov/stellent/groups/public/@rulesandproducts/documents/ifdocs/rul082310nymexandcomex001.pdf>

As of January 22, 2015, HSBC's COMEX-registered New York silver vaults held nearly 35 million metric tons of physical silver.¹⁹

47. HSBC Holdings plc filed its U.S. Resolution Plan with the U.S. Federal Reserve Board on July 1, 2013. HSBC Holdings plc identified six U.S. material entities: HSBC North America Holdings Inc.; HSBC USA Inc.; HSBC Bank USA, National Association; HSBC Securities (USA) Inc.; HSBC Technology & Services (USA) Inc.; and HSBC Finance Corporation. HSBC Holdings plc identified that one of its three U.S. global markets core business lines is metals, which provides a hub for its U.S. clients to engage in spot, forwards, swaps, lending, and custodial services.

48. Defendant HSBC North America Holdings Inc. is a Delaware corporation and the top level holding company for HSBC Holdings plc's operations in the U.S. Its principal place of business is located at 452 Fifth Avenue, New York, NY 10018.

49. Defendant HSBC USA Inc. is a Maryland corporation and an intermediate level holding company for HSBC Holdings plc's operations in the U.S. Its principal subsidiary is HSBC Bank USA, National Association.

50. Defendant HSBC Bank USA, N.A. is HSBC Holdings plc's principal U.S. banking subsidiary and is a national banking association chartered by the Office of the Comptroller of the Currency, with 253 branches in the U.S. and 22 representative offices in the U.S., including 165 branches in the State of New York. Its main office is in McLean, Virginia, and its principal executive offices are located at 452 Fifth Avenue, New York, NY. Its domestic operations are located primarily in the State of New York. HSBC Bank USA, N.A. is subject to regulation by the Office of the Comptroller of the Currency, the Federal Deposit Insurance

¹⁹ http://www.cmegroup.com/delivery_reports/Silver_stocks.xls.

Corporation, the Consumer Financial Protection Bureau and the Federal Reserve Board. HSBC Bank USA, National Association is the key metals risk management arm of HSBC.

51. HSBC Bank USA, N.A. was a member of the London Silver Market Fixing Ltd. during the entire Class Period.

52. HSBC Bank USA, N.A. is a member of the LBMA London Silver Fixing Panel.

53. HSBC Bank USA, N.A. was a COMEX Division Non-Clearing Member Firm during at least part of the Class Period.

54. HSBC Securities (USA) Inc. is a Delaware corporation and is a registered broker-dealer of securities under the Securities Exchange Act of 1934; a registered Futures Commission Merchant with the CFTC; and a registered swap dealer with the CFTC. It is a member of the Financial Industry Regulatory Authority, the New York Stock Exchange, Inc., CME Group, Inc. (“CME”), Intercontinental Exchange (“ICE”), LCH Clearnet Ltd. (“LCH”), and the Options Clearing Corporation. It is eligible to clear over-the-counter derivatives at the CME, ICE, and LCH.

55. HSBC Securities (USA), Inc. was a NYMEX Clearing Member Firm during at least part of the Class Period.

56. Defendants HSBC Holdings plc, HSBC North America Holdings Inc., HSBC Bank (U.S.A.), N.A., and HSBC USA Inc. are collectively referred to herein as “HSBC.”

57. HSBC is one of the world’s largest metals custodians and the only over-the-counter market maker with foundations in gold, silver, platinum, and palladium. It has a metals trading hub and analyst teams in New York, out of which it offers services for everything in the precious metals value chain—including financing, exploration and development, operations, reclamation, storage and manufacturing, hedging, vaulting, and leasing.

58. As a dealer in precious metals, HSBC “frequently maintains large open positions on U.S. futures markets,” including entering into cash, forward, and options transactions with its U.S. clients and market participants.²⁰

59. HSBC was the sixth most active U.S. market maker in the silver spot market during the Class Period, based on public silver quotes. This does not include trading through HSBC’s private platform.

60. HSBC is a member of the unlawful combination and conspiracy alleged herein, from which, to Plaintiffs’ knowledge, it has not effectively withdrawn.

C. Bank of Nova Scotia Defendants

61. Defendant The Bank of Nova Scotia, commonly known as Scotiabank, is a Canadian bank with its principal place of business in Toronto. It owns 100% the equity and voting interests in Defendants Scotia Capital (USA) Inc., Scotiabanc Inc., Scotia Holdings (US) Inc., Scotia Capital (USA) Inc., and The Bank of Nova Scotia Trust Company of New York.

62. The Bank of Nova Scotia’s U.S. core business lines include its Global Banking and Markets division, known as ScotiaMocatta. ScotiaMocatta “deals in precious and base metals trading, finance, and physical metal distribution.” ScotiaMocatta operates as a business through The Bank of Nova Scotia New York Agency. ScotiaMocatta operates its precious metals wholesale services at 250 Vesey Street, 24th floor, New York, NY, 10281.

63. Scotiabank maintains a COMEX-registered silver depository (vault) in which it stores silver at 230-59 International Airport Center Blvd., Building C, Ste. 120, Jamaica, Queens,

²⁰http://www.cftc.gov/ucm/groups/public/@newsroom/documents/file/metalmarkets032510_charles.pdf.

NY.²¹ The Bank of Nova Scotia, through its ScotiaMocatta division, holds nearly ten million troy ounces of exchange-eligible silver bullion in this vault.²² As of October 31, 2012, Scotiabank had assets in precious metals, including silver, totaling approximately \$12,387,000,000. As of January 22, 2015, Scotiabank's COMEX-registered New York silver vault held more than 9 million metric tons of physical silver.²³

64. The Bank of Nova Scotia was a COMEX Clearing Member during at least part of the Class Period.

65. The Bank of Nova Scotia reported to the CFTC that its New York-based traders held COMEX futures and options positions during at least part of the Class Period.²⁴

66. The Bank of Nova Scotia filed its U.S. Resolution Plan on December 20, 2013 to the U.S. Federal Reserve Board, the Federal Deposit Insurance Corporation and the Financial Stability Oversight Counsel. The Bank of Nova Scotia reported that its Global Banking and Markets division offers a wide range of products in the U.S., including capital markets products and services, such as precious and base metals through ScotiaMocatta.

67. The Bank of Nova Scotia is a registered Swaps Dealer with the National Futures Association and regulated by the CFTC.

²¹<http://www.cftc.gov/stellent/groups/public/@rulesandproducts/documents/ifdocs/rul082310nymexandcomex001.pdf>

²² See CME Group, Warehouse Depositories and Stocks, at <http://www.cmegroup.com/trading/energy/nymex-delivery-notices.html> (CME Report dated Jan. 23, 2014); CFTC Archives, <http://www.cftc.gov/files/submissions/rules/approvals/2006/comexscotiamocatta.pdf> ("ScotiaMocatta Depository (SMD) is a division, not a subsidiary, of The Bank of Nova Scotia.").

²³ http://www.cmegroup.com/delivery_reports/Silver_stocks.xls.

²⁴ ScotiaMocatta Commitments of Traders (CFTC), available at http://www.scotiamocatta.com/scpt/scotiamocatta/prec/pmcftc_weekly.pdf.

68. The Bank of Nova Scotia participates in a number of payment, clearing and settlement systems in the United States, including the Federal Reserve Wire Network, the Clearing House Interbank Payments System, the National Securities Clearing Corporation, the Fixed Income Clearing Corporation, the Depository Trust & Clearing Corporation, the Chicago Mercantile Exchange and the Bank of New York Mellon. The Bank of Nova Scotia conducts a material number of value amount transaction on the Chicago Mercantile Exchange and with the Bank of New York Mellon.

69. Defendant Scotia Capital (USA) Inc. is a New York corporation and registered broker dealer in securities with the U.S. Securities and Exchange Commission, and member of the Financial Industry Regulatory Authority and New York Stock Exchange, with its principal place of business located at 1 Liberty Plaza, New York, NY 10006. Scotia Capital (USA) Inc. is a wholly-owned subsidiary of Scotia Capital Inc., which is a wholly-owned subsidiary of The Bank of Nova Scotia.

70. Defendant Scotiabanc Inc. is a Delaware corporation with its principal place of business located at 711 Louisiana Street, Suite 1400, Houston, Texas 77002. Scotiabanc Inc. is a wholly owned subsidiary of Defendant Scotia Holdings (US) Inc.

71. Defendant Scotia Holdings (US) Inc. is a Delaware corporation with its principal place of business located at 600 Peachtree Street NE, Atlanta, GA 30308-2219. Scotia Holdings (US) Inc. is a wholly-owned subsidiary of BNS Investments Inc. The sole common shareholder of BNS Investments Inc. is The Bank of Nova Scotia and the sole preferred shareholder is Scotia Ventures Limited, which is a wholly-owned subsidiary of The Bank of Nova Scotia.

72. Defendant The Bank Of Nova Scotia Trust Company Of New York is trust company regulated by the NYDFS and the Federal Reserve Bank of New York and a subsidiary

of Scotia Holdings (US) Inc., with its principal place of business located at One Liberty Plaza, 165 Broadway, 26th Floor, New York, NY 10006.

73. Defendants The Bank of Nova Scotia, Scotiabanc Inc., Scotia Holdings (US) Inc., Scotia Capital (USA) Inc., and The Bank of Nova Scotia Trust Company of New York are collectively referred to herein as “Bank of Nova Scotia.”

74. The Bank of Nova Scotia was the number one most active U.S. market maker in the silver spot market during the Class Period, based on public silver quotes. The Bank of Nova Scotia was a member of London Silver Fixing Ltd. during the entire Class Period until August 14, 2014 and the unlawful combination and conspiracy alleged herein, from which, to Plaintiffs’ knowledge, it has not effectively withdrawn.

D. UBS Defendants

75. Defendant UBS AG (“UBS”) is a corporation organized under the laws of Switzerland with its principal place of business in Zurich, Switzerland. It has operations in over 50 countries, including in the United States. UBS maintains branches in several U.S. states, including Connecticut, Illinois, Florida, and New York, with its U.S. headquarters in New York and Stamford, Connecticut. UBS is registered with the Office of the Comptroller of the Currency (“OCC”), the Connecticut Department of Banking, and the CFTC as a swap dealer. UBS is licensed and supervised by the Board of Governors of the Federal Reserve System.

76. Throughout the Class Period, UBS was the third most active market maker in the silver spot market. According to the UBS FINMA Report, during the Class Period, UBS engaged in silver spot market trading from Stamford, Connecticut.²⁵

²⁵ See UBS FINMA Report at 12 (locating precious metals trading in Stamford, Zurich, and Singapore).

77. UBS AG's 2013 U.S. Resolution Plan describes the Investment Bank division of UBS AG, which contains three Core Business Lines. The Investment Bank is the largest division by owned assets, accounting for 53% of the consolidated total for UBS AG. One of the three Core Business Lines is the "Investor Client Services Foreign Exchange" ("ICS FX") which is described as follows: "ICS FX provides a full range of G10 and emerging markets currency and precious metals services globally. Through ICS FX, UBS is a market-maker in the professional spot, forwards and options markets. ICS FX also provides clients trading, investing and hedging across the spectrum of gold, silver, platinum and palladium related offerings." The 2013 UBS U.S. Resolution Plan also describes main products and underlyings that the UBS Group uses as "an established precious metals ability in both flow and non-vanilla OTC products incorporating both physical and non-physical trading... The vanilla OTCs are in forwards, swaps and options. The non-vanilla OTC business relates to cash-settled forwards similar in nature to nondeliverable forwards, meaning there is no physical delivery of the underlying."

78. In its 2013 Resolution Plan, UBS AG designated the following Material Entities in the U.S.: UBS AG New York WM Branch; UBS AG London Branch; UBS AG Stamford Branch; UBS Bank USA; UBS Financial Services Inc.; UBS Global Asset Management (Americas) Inc.; UBS O'Connor LLC; UBS Realty Investors LLC; UBS Securities LLC; and UBS Services LLC.

79. UBS AG was a Non-Clearing Member Firm in both the NYMEX and COMEX during at least part of the Class Period.

80. Subsidiaries UBS Securities LLC and UBS Financial Services Inc. and other U.S.-registered broker-dealer entities are subject to the regulations of the Securities Exchange

Commission, the Financial Industry Regulatory Authority, the New York Stock Exchange, the Municipal Securities Rulemaking Board, the U.S. Department of the Treasury, and the CFTC.

81. In December 2014, UBS Group AG (previously a wholly-owned subsidiary of UBS AG) became the publicly-traded holding company for UBS AG and its subsidiaries. UBS Group AG shares will be listed on the SIX Swiss Exchange and the New York Stock Exchange. UBS AG announced on December 17, 2014 that its shares would be delisted in January 2015. As of December 17, 2014, over 96.68% of UBS AG stock was acquired by UBS Group AG. As a foreign private issuer, UBS AG and UBS Group AG are required to be in compliance with corporate governance standards applicable to foreign private issuers and jointly file an Annual Report on Form 20-F with the Securities Exchange Commission and submit its quarterly Financial Reporting to the SEC under Form 6-K.

82. On November 12, 2014, FINMA ordered UBS to pay 134 million Swiss francs (approximately \$139 million) to settle the FX and precious metals probe that began in 2008. Following the settlement, FINMA reported, “[t]his conduct was partly coordinated with other banks” and “electronic communications platforms played a key role.” According to BLOOMBERG NEWS, FINMA said it found “serious misconduct” by UBS and a “clear attempt to manipulate fixes in the precious metal market,” including Silver Fixing, during its investigation into precious metals and FX trading at UBS. FINMA’s investigation found that UBS was “front running” precious metals trades, *i.e.*, using its advance knowledge of large transactions that would influence prices, to generate illegitimate profits in the silver market. FINMA Director Mark Branson said in a conference call, “The behavior patterns in precious metals were somewhat similar to the behavior patterns in foreign exchange.”

83. UBS, as alleged further herein, participated in the unlawful combination and conspiracy with the Fixing Members by, among other things, manipulating the Silver Fix, conspiring to fix spreads in the silver market, coordinating manipulative silver transactions, and sharing proprietary information with co-conspirator banks.

E. Barclays Defendants

84. Defendant Barclays Bank PLC is a British public limited company headquartered at 1 Churchill Place, London E14 5H, England. Barclays Bank PLC maintains a branch in this District registered with the NYDFS located at 745 Seventh Avenue, New York, New York 10019, and a foreign representative office located at 1301 Sixth Avenue, New York, NY 10019. Barclays Bank PLC is a provisionally registered swap dealer with the CFTC. Defendant Barclays Capital Inc. is a wholly-owned subsidiary of Barclays Bank PLC that engages in investment banking, wealth management, and investment management services. Defendant Barclays Capital Inc. (“BCI”) is incorporated under the laws of Connecticut and operates its principal place of business at 745 Seventh Avenue, New York, New York 10019. BCI is a wholly-owned subsidiary of Barclays Bank PLC and engages in investment banking, wealth management, and investment management services. BCI has a Commodities Group that “handles trading in precious metals and energy.”²⁶ BCI’s Commodities Group “delivers a fully integrated and global service for base and precious metals and energy products in all major currencies.”²⁷ BCI is registered with the CFTC as a Futures Commission Merchant and is also a clearing member of the Chicago Mercantile Exchange. Defendant Barclays Capital Services Ltd. is a wholly-owned

²⁶ Jack W. Plunkett, PLUNKETT’S INVESTMENT & SECURITIES INDUSTRY ALMANAC 2008.

²⁷ *Commodities: Getting Real on Risk and Return (Sponsored statement: Barclays Capital)*, RISK, available at <http://www.risk.net/structured-products/advertisement/1528361/commodities-getting-real-risk-return>.

subsidiary of Barclays PLC that provides investment banking services. Defendants Barclays Bank PLC, BCI, and Barclays Capital Services Ltd. are referenced collectively in this Complaint as “Barclays.”

85. Barclays’ core business lines and/or critical operations in the United States are headquartered in New York. Barclays’ incentive to publicize its presence in New York and the United States is such that it is committed to pay \$200 million over 20 years for naming rights for the Barclays Center in Brooklyn, NY.²⁸

86. In September of 2008, Barclays announced its agreement to acquire New York-based Lehman Brothers’ “North American investment banking and capital markets operations and supporting infrastructure.”²⁹ Barclays added that “[t]he transaction will create a premier integrated global bulge bracket investment banking company with a leading presence in all major markets and across all major lines of business including...commodities trading.” *Id.* Two months later, BCI announced that it “expanded its commodities team by about a third to more than 300 people th[at] year.” Benoit de Vitry, BCI’s “head of commodities” was concurrently quoted “by phone from New York.”³⁰

²⁸ See Richard Sandomir, *Arena Names Can Spell Embarrassment* (July 4, 2012), available at http://www.nytimes.com/2012/07/05/sports/arena-names-can-spell-embarrassment.html?_r=1.

²⁹ Press Release, Barclays Announces Agreement to Acquire Lehman Brothers North American Investment Banking and Capital Markets Business (Sept. 17, 2008), available at http://www.newsroom.barclays.com/r/1435/barclays_announces_agreement_to_acquire_lehman_brothers.

³⁰ Chanyaporn Canjaroen, *Barclays Expands Commodities Team, Expects More in “Bull Cycle”*, BLOOMBERG (Nov. 14, 2008).

87. In December of 2009, BCI hosted in New York its fifth annual U.S. Commodities Investor Conference.³¹ Its concurrent press release touted the presence of “Barclays Capital experts in...metals.”³²

88. In August of 2013, Barclays announced that BCI’s Robert Bogucki would “take on the additional role of head of commodities trading for the Americas.”³³

89. Barclays was the eleventh most active U.S. market maker in the silver spot market during the Class Period, based on public silver quotes. *See* ¶ 200.

90. Barclays, as alleged further herein, participated in the unlawful combination and conspiracy with the Fixing Members by, among other things, conspiring to fix spreads in the silver market, coordinating manipulative silver transactions, and sharing proprietary information with co-conspirator banks.

F. Fortis Defendants

91. Defendant BNP Paribas Fortis S.A./N.V. (“BNP”), successor in interest to Fortis Bank S.A./N.V. (“Fortis Bank”), is a Belgian bank that, through various affiliates, does business throughout the world, including the United States. BNP completed its acquisition of Fortis Bank in May 2009. BNP’s website for its American affiliate states: “BNP Paribas has been present in the United States since the late 1800s and currently has over 16,000 employees in North America. The region is a key hub for the Bank’s global network of 75 countries and nearly

³¹ *Barclays Capital Finds Institutional Investors Ready for Record Commodity Investment in 2010*, Business Wire, Jan. 10, 2009, available at <http://www.businesswire.com/news/home/20091210005789/en/Barclays-Capital-Finds-Institutional-Investors-Ready-Record>.

³² *Id.*

³³ *Barclays names commodities trading chief for the Americas*, Reuters, Aug. 2, 2013, available at <http://uk.reuters.com/article/uk-barclays-commodities-idUKBRE9710VH20130802>.

190,000 employees.”³⁴ BNP maintains a branch in this District located at 787 Seventh Avenue, New York, New York 10019. BNP is the successor in interest to the Belgian portion of Fortis Bank. BNP and Fortis Bank are collectively referred to in this Complaint as “Fortis.”

92. Fortis Bank operated a bank branch in this District at 787 Seventh Avenue, New York, New York during the Class Period. Fortis Bank was licensed, supervised, and regulated by the NYDFS to do business in this state from 2002 until its acquisition by BNP.

93. Fortis Bank announced in September 2007 that it had established a commodities derivatives operation in New York, which included base and precious metals trading.³⁵ Fortis’ “metal activities cover the full range of products in the base and precious metals arena where [they] act in a market-making capacity for both listed and over-the-counter products.”³⁶

94. Fortis Bank published marketing materials during the Class Period called “Fortis Metals Monthly,” which detailed its precious metals trading, including for silver. In these materials, Fortis Bank identifies several traders located in New York for customers to contact in order to trade precious metals. Former New York-based Fortis Bank Director Steven Silverstein developed “[e]xtensive experience cross-selling *metals*, FX and IRS derivatives, and other bank products” during his tenure at Fortis during the Class Period.³⁷

³⁴ *BNP Paribas in the US*, BNP Paribas, available at <http://usa.bnpparibas/en/bnp-paribas/bnp-paribas-us/>.

³⁵ See *Fortis Launches Commodity Derivatives Operations in New York*, TRADE & FORFAITING REVIEW (Sep. 5, 2007), available at <http://www.tfreview.com/news/commodities/fortis-launches-commodity-derivatives-operations-new-york>.

³⁶ *Committed to Commodities*, FORTIS BANK, available at http://www.orvico.nl/upload/diagram_2/FORTIS_%20GCG.pdf.

³⁷ See <https://www.linkedin.com/in/stsilverstein> (emphasis added).

95. Fortis, as alleged further herein, participated in the unlawful combination and conspiracy with the Fixing Members by, among other things, conspiring to fix spreads in the silver market, coordinating manipulative silver transactions, and sharing proprietary information with co-conspirator banks.

G. Standard Chartered Defendants

96. Defendant Standard Chartered Bank (“Standard Chartered”) is incorporated under the laws of England and Wales, with its headquarters in London, England. Standard Chartered is licensed by the NYDFS with a registered address at 1095 Avenue of the Americas, No. 37, New York, New York 10036. Standard Chartered’s New York Branch is the headquarters of Standard Chartered’s “Americas” business.

97. Standard Chartered’s metals trading business, which offers both physical and derivatives products to its customers, operates out of the bank’s offices in six cities, including New York.³⁸ Standard Chartered’s website includes a claim that it “provide[s] commodity trading...to the Bank’s clients” in part via “on-the-ground presence in . . . New York.”³⁹ In 2009, Standard Chartered announced the appointment of New York-based Mohammed Grimeh as the Bank’s Head of Trading and Deputy Head of Global Markets, a position entailing “managing . . . commodities trading across G10 . . . markets,” including the United States.⁴⁰

³⁸ Jeremy East, *Precious Metals International Context*, ALCHEMIST (2014), available at <http://www.lbma.org.uk/assets/blog/alchemy/articles/Alch75East.pdf>.

³⁹ Press Release, Standard Chartered, We've appointed Cengiz Belentepe as Global Head of Commodities, Financial Markets (Sept. 15, 2016), available at <https://www.sc.com/en/news-and-media/news/global/2016-09-15-cengiz-belentepe-appointed-as-global-head-commodities.html>.

⁴⁰ Press Release, Standard Chartered Argentina, Standard Chartered Appoints Head of Trading and Deputy Head of Global Markets, Americas (Jan. 12, 2009), available at <https://www.sc.com/ar/press-releases/jan-12-09/en/>.

98. Standard Chartered was the eighth most active U.S. market maker in the silver spot market during the Class Period, based on public silver quotes. *See* ¶ 200.

99. Standard Chartered, as alleged further herein, participated in the unlawful combination and conspiracy with the Fixing Members by, among other things, coordinating manipulative silver transactions, and sharing proprietary information with co-conspirator banks.

H. Merrill Lynch Defendants

100. Defendant Bank of America Corporation (“BAC”) is a corporation organized and existing under the laws of the State of Delaware, with its principal place of business located at 100 North Tryon Street, Charlotte, North Carolina 28255. BAC operates an investment banking division located in this District at the Bank of America Tower, One Bryant Park, 1111 Avenue of the Americas, New York, New York 10036. Defendant Bank of America, N.A. (“BANA”) is a federally-chartered national banking association with its principal place of business located at 101 South Tyron Street, Charlotte, North Carolina 28255. BANA is an indirect, wholly-owned subsidiary of BAC. BANA is a provisionally registered swap dealer with the CFTC. Defendant BANA is named as a successor-in-interest to Defendant Merrill Lynch.

101. Defendant Merrill Lynch, Pierce, Fenner & Smith Inc. (“Merrill Lynch”) is a Delaware corporation with its headquarters at One Bryant Park, New York, New York 10036, and is a wholly-owned subsidiary of Bank of America Corporation. Merrill Lynch is the primary broker-dealer for BAC. Merrill Lynch is registered with the CFTC as a Futures Commission Merchant and the U.S. Securities and Exchange as broker-dealer. Merrill Lynch is a clearing member of the CME, COMEX, and NYMEX. BAC, BANA, and Merrill Lynch are collectively referred to in this Complaint as “Merrill Lynch.”

102. Merrill Lynch, as alleged further herein, participated in the unlawful combination and conspiracy with the Fixing Members by participating in chatrooms to share and obtain proprietary information to coordinate positions in the silver market with co-conspirator banks.

I. Jane Doe Defendants

103. Jane Doe Defendants Nos. 1-100 are other entities or persons, including banks, interdealer brokers, cash brokers and other co-conspirators whose identities are currently unknown to Plaintiffs. The Jane Doe Defendants participated in, furthered, and/or combined, conspired, aided and abetted, or agreed with others to perform the unlawful acts alleged herein.

J. Agents and Co-conspirators

104. Other entities and individuals unknown to Plaintiffs at this time participated as co-conspirators and performed acts in furtherance of the conspiracy. Whenever reference is made to any act, deed, or transaction of any corporation or partnership, the allegation means that the corporation or partnership engaged in the act, deed or transaction by or through its officers, directors, agents, employees, representatives, parent, predecessors, or successors-in-interest while they were actually engaged in the management, direction, control or transaction of business, or affairs of the corporation or partnership.

JURISDICTION, VENUE, AND COMMERCE

105. This action arises under Section 22 of the Commodity Exchange Act, 7 U.S.C. § 25, Section 1 of the Sherman Antitrust Act, 15 U.S.C. § 1, and Sections 4 and 16 of the Clayton Act, 15 U.S.C. §§ 15 and 26, respectively. Silver is a “commodity” and is the “commodity underlying” silver financial instruments, including COMEX silver futures contracts, as those terms are defined within the Commodity Exchange Act.

106. This Court has federal question subject matter jurisdiction pursuant to 28 U.S.C. §§ 1331 and 1337.

107. The Court may exercise supplemental jurisdiction pursuant to 28 U.S.C. § 1367 over Plaintiffs' claims under the laws of the several states.

108. Venue is proper in this District pursuant to 15 U.S.C. §§ 15(a) and 22, and 28 U.S.C. § 1391(b), (c) and (d), because during the Class Period, Defendants resided, transacted business, were found, or had agents in this District, and a substantial portion of the alleged activity affected interstate trade and commerce in this District.

109. Defendants' conduct was within the flow of, was intended to, and did, in fact, have a substantial effect on the interstate commerce of the United States, including in this District.

110. During the Class Period, Defendants used the instrumentalities of interstate commerce, including interstate wires, the U.S. mail, and domestic futures exchanges, including for example, COMEX and the CBOT, to effectuate their illegal scheme.

111. COMEX and the CBOT are both divisions of the CME. To facilitate continuous trading of silver futures contracts and options, the CME developed an electronic trading platform called GLOBEX. Beginning in 2006, the GLOBEX platform rapidly became the dominant method for trading silver futures contracts. Chats among Defendants' traders show that they routinely used the GLOBEX platform to transact in silver futures and options contracts on COMEX and/or the CBOT, purposefully directing their manipulative conduct at the United States by transacting in silver futures and options contracts on a domestic exchange while simultaneously engaging in manipulative conduct to create artificial prices in the U.S. market that financially benefited those positions.⁴¹

⁴¹ See e.g., DB_PM_SLVR_0202464, DB_PM_SLVR_0272953 (Barclays); DB_PM_SLVR_0272808, DB_PM_SLVR_0044004 (Fortis); DB_PM_SLVR_0268647, DB_PM_SLVR_0270914 (Standard Chartered).

112. Defendants' manipulation, conspiracy, and conduct alleged herein was in U.S. import commerce and/or had direct, substantial and reasonably foreseeable effects on U.S. domestic commerce. Such effects give rise to Plaintiffs' claims, within the meaning of the Foreign Trade Antitrust Improvements Act.

113. Silver and silver financial instruments, like COMEX silver futures and options contracts, are commodities that trade in interstate commerce. Defendants' purposefully directed their restraint of trade and intentional manipulation of silver and silver financial instrument prices at the United States, causing harm to Plaintiffs and members of the Class. Billions of dollars of silver and silver financial instruments were traded in the United States during the Class Period. Defendants, as Fixing Members and sophisticated market participants, know that the results of the Silver Fix are (and knew that they were during the Class Period) disseminated in the United States, and are (and were during the Class Period) used to price silver and silver financial instruments, including COMEX silver futures and options contracts. For these reasons, Defendants knew that by purposefully directing their manipulative conduct, including their manipulation of the Silver Fix, at the United States, they could generate illicit profits by manipulating and fixing the prices of silver financial instruments such as COMEX silver futures and options contracts traded in the United States to artificial levels for their financial benefit.

114. Defendants' conduct had a substantial effect on the intrastate commerce of each of the fifty United States and its territories.

115. This Court has personal jurisdiction over each Defendant, because each Defendant transacted business, maintained substantial contacts, is located and/or they or their co-conspirators committed overt acts in furtherance of their illegal conspiracy, in the United States,

including in this District. The scheme was purposefully directed at, and had the intended effect of, causing injury to persons residing in, located in, or doing business in this District.

116. The Court has quasi in-rem jurisdiction over at least certain of the Defendants by virtue of their substantial physical assets located in New York, including caches of COMEX-registered silver bullion held in vaults in New York by at least HSBC and Bank of Nova Scotia.

SUBSTANTIVE ALLEGATIONS

I. THE FIXING MEMBER DEFENDANTS, BY DOMINATING THE SILVER FIX, CONTROLLED THE PRICE OF SILVER

117. Prior to and during the Class Period, silver prices were set each business day by the concerted action of the Fixing Members, through an “old-fashioned and opaque,”⁴² process called the Silver Fix.

118. The Silver Fix “was born in the late 19th century when a handful of London bullion dealers agreed to meet daily under a cloud of cigar smoke to set the price for the ‘devil’s metal.’”⁴³ The original members of the 1897 Silver Fix were: (i) Mocatta & Goldsmid; (ii) Sharps & Wilkins; (iii) Pixley & Abell; and (iv) Samuel Montagu & Co.

119. Until August 14, 2014, this “venerable City of London institution”⁴⁴ was orchestrated by the London Silver Market Fixing, Ltd. Each business day the three Fixing Members—Defendants Deutsche Bank, HSBC, and Bank of Nova Scotia—met on a secure

⁴² *London’s silver price fix dies after nearly 120 years*, THE FINANCIAL TIMES (May 14, 2014), <http://www.ft.com/intl/cms/s/0/db3188b8-db46-11e3-94ad-00144feabdc0.html?siteedition=intl#axzz38yxp1nAQ>.

⁴³ *London’s silver price fix dies after nearly 120 years*, THE FINANCIAL TIMES (May 14, 2014), <http://www.ft.com/intl/cms/s/0/db3188b8-db46-11e3-94ad-00144feabdc0.html?siteedition=intl#axzz38yxp1nAQ>.

⁴⁴ *What’s The London Silver Fix, And Why’s It Going Away?* THE WALL STREET JOURNAL (May 14, 2014), <http://blogs.wsj.com/moneybeat/2014/05/14/whats-the-london-silver-fix-and-whys-it-going-away/>.

conference call at 12:00 P.M. London time to fix the price of physical silver. The Silver Fix, which typically took less than 10 minutes, was conducted as a “Walrasian” or simultaneous auction led by one of the Fixing Members who was designated as the “Chairman.” The Chairman position rotated among the Silver Fix panel members each year. No other silver market participants were allowed to run or participate in the daily auction.

120. The Silver Fix ostensibly started with the Chairman’s determination of the U.S. Dollar “spot price” of silver, *i.e.*, the cash price of silver for immediate delivery. This became the opening price for the auction. Each Fixing Member then examined its order book, which contained orders from clients’ brokerage accounts along with proprietary orders from that Fixing Member’s own precious metals trading desk. Based on these orders, each Fixing Member declared how many bars of silver (around 1,000 troy ounces each) it was willing to buy or sell at the opening price in 50-bar increments.

121. After each participant placed its orders, the transactions were netted against each other. If the amount of buying interest was equal to the amount of selling interest the Silver Fix was complete. Otherwise, the Chairman would adjust the price upward or downward and the process would be repeated until the total amount of silver bought was within 300 bars of the total amount sold. For example, if at the opening price the Fixing Members expressed interest in buying a total of 1000 bars of silver but only 300 bars were offered for sale, the Chairman would progressively raise the price, inducing the sellers to offer more silver, until the difference between the buyers’ and sellers’ offers totaled 300 bars or less.

122. If for some reason this 300-bar threshold could not be reached, the Chairman could unilaterally fix the price of silver and the Fixing Members would divide the excess supply or demand pro-rata among themselves. For example, if there was one buyer and two sellers and

the buyer was willing to purchase 300 bars more than what was being offered, the buyer would reduce its buying interest by 100 bars and each of the sellers would increase its selling interest by 100 bars, collectively absorbing the 300 bar difference. Once this “price-setting ritual”⁴⁵ was completed, the final Fix price was published to the market.

123. This is what was supposed to happen. During the Class Period, no one outside the conspiracy knew what actually happened inside the Silver Fix. Throughout the Class Period, the Fixing Members and their co-conspirators maintained complete control over the Silver Fix and the resulting Fix price. The Fixing Members have never allowed anyone to view the Silver Fix, audit its results, or observe the daily auction. No other market participants were allowed to contribute to Silver Fix. No one, except for the Fixing Members and their co-conspirators, could influence the Fix price.

124. This dominant position of control over the Silver Fix and the Fix price gave the Fixing Members and their co-conspirators control over the price of silver throughout the Class Period. The Fix price is “globally regarded as the international benchmark” for silver and “globally accepted as the basis for pricing a variety of transactions, including many financial instruments.”⁴⁶ “The guiding principal behind the Fixing is that all business, whether for large or small amounts, is conducted solely on the basis of a single published Fixing price.”⁴⁷ The global acceptance and use of the Fix price is possible because silver, the forty-seventh element

⁴⁵ *Century old London silver fixing firm closes shop*, RESOURCE INVESTOR (May 14, 2014), <http://www.resourceinvestor.com/2014/05/14/century-old-london-silver-fixing-firm-closes-shop?ref=hp>.

⁴⁶ *See London is Home to the International Benchmark Prices for Gold and Silver*, LBMA, <https://web.archive.org/web/20140619063614/http://www.lbma.org.uk/pricing-and-statistics> (last visited June 19, 2014).

⁴⁷ *A Guide to the London Precious Metals Markets*, LONDON BULLION MARKET ASSOCIATION, at 14, <http://www.lbma.org.uk/assets/market/OTCguide20081117.pdf>.

on the periodic table, has the exact same elemental properties regardless of where it is located; an ounce of silver in a COMEX depository located in New York contains the exact same metal as an ounce of silver held in a London vault. Thus, by controlling the Fix price, the Fixing Members and their co-conspirators controlled the *global* price of silver, not just the price of silver traded in the London market, *i.e.*, the price of London “Good Delivery” silver bars.⁴⁸

II. THE FIX PRICE DIRECTLY IMPACTS THE VALUE OF MULTIPLE SILVER INVESTMENTS

125. Consistent with its global benchmark status, The Fix price was used to price, benchmark, and/or settle billions of dollars in physical silver and silver financial instruments each day during the Class Period. As a “global benchmark that is used by everyone from jewelers to miners to price their deals,”⁴⁹ the Silver Fix and resulting Fix price “plays a crucial role in the roughly \$30 billion a year global trade in silver. It affects the price of jewelry, helps determine the value of numerous silver investments, and impacts the earnings of mining companies that sell raw material to metals refiners.”⁵⁰ Central banks also use the Fix price as a benchmark for buying and selling silver for their reserves. During the Class Period, the silver and silver financial instruments that Plaintiffs and the Class transacted were priced, benchmarked, and/or settled to the Fix price.

⁴⁸ London “Good Delivery” silver bars are produced in a format, e.g., size, shape, and weight that meet London Bullion Market Association guidelines. The silver contained in these bars is exactly the same as the silver used in other bars worldwide.

⁴⁹ *Curtain to fall on London’s historic silver benchmark*, MARKETWATCH (May 14, 2014), <http://www.marketwatch.com/story/curtain-to-fall-on-londons-historic-silver-benchmark-2014-05-14>.

⁵⁰ *Curtain to Fall on London’s Historic Silver Benchmark*, THE WALL STREET JOURNAL (May 14, 2014), <http://online.wsj.com/articles/SB10001424052702304908304579561202115402582>.

A. Physical Silver

126. Physical silver is traded “over-the-counter” (“OTC”) between private parties. Because there is no centralized OTC market, the price of silver in these transactions is determined by reference to the Fix price, which the Fixing Members set through the Silver Fix throughout the Class Period.

127. Physical silver is traded in many different forms. Outside of the Silver Fix, which is itself an auction for 1000-ounce silver bars, investors buy and sell silver bars, coins, and “rounds,” coin-sized pieces of silver with no face value, of various sizes. Because physical silver is traded in various amounts, the silver market is accessible to large bullion banks, like the Defendants, and also to smaller investors, including Class members. Regardless of the format, physical silver bars, coins, rounds, and other products are always priced based on the Fix price, which determines the price per ounce of silver.⁵¹

128. Physical silver may be held directly by an investor and stored, for example, in a safe deposit box, or kept with a bullion bank, like Defendants Deutsche Bank, HSBC, Bank of Nova Scotia or UBS, who acts as a custodian for the account holder. Silver stored with a bullion bank is kept in either an “allocated” or “unallocated” account. An allocated account gives the account holder an entitlement to a specific, designated silver stock, which is segregated, and for which the account holder is provided a list of bar numbers, weights and quality of each bar. An unallocated account gives the account holder a general entitlement to silver from the bank’s stock but specific bars or coins are not set aside or assigned to the account holder. In both cases, because the bank holds the silver, ownership is typically represented by certificates, such as

⁵¹ For example, the prices of silver bars and coins traded on the American Precious Metals Exchange are equal to the spot price of silver plus a premium, which can represent the cost of production as well as the collectable value of some rare coins. *See First Time Buyers FAQs*, APMEX, <http://www.apmex.com/first-time-buyer>.

silver certificates sold by Bank of Nova Scotia, which “may look and feel like paper, but they’re every bit as valuable as the precious metals they represent,” and convertible to silver bullion.⁵²

B. Silver Financial Instruments

129. The Silver Fix and resulting Fix price also directly impact the prices of numerous exchange-traded financial instruments, such as silver futures and options contracts, as well as OTC transactions, such as silver swaps and silver forward agreements. In each case, the Silver Fix impacts the value of these financial instruments by determining the price per ounce of physical silver, which is the “commodity underlying” exchange traded silver futures and options contracts, and the actual metal being exchanged in OTC transactions.

130. For instance, silver futures and options contracts are traded on the COMEX, short for Commodity Exchange, Inc., which is a division of the New York Mercantile Exchange. COMEX is a Designated Contract Market pursuant to Section 5 of the CEA, 7 U.S.C. § 7. COMEX specifies the terms of trading for silver futures and options contracts, including the trading units, price quotation, trading hours, trading months, minimum and maximum price fluctuations and margin requirements. Silver futures and options contracts also traded on the NYSE LIFFE exchange⁵³ and on the CBOT⁵⁴ during the Class Period.

⁵² Bank of Nova Scotia website, at <http://www.scotiamocatta.com/products/certificates.htm>.

⁵³ NYSE LIFFE exchange silver futures and options are now traded within the United States on the Intercontinental Exchange (“ICE”). See <https://www.theice.com/products/Futures-Options/Foreign-Exchange#/products/31500923/Mini-Silver-Future>; ICE website, at <https://www.theice.com/products/Futures-Options/Foreign-Exchange#/products/31500927/Options-on-1000oz-Mini-Silver-Future>.

⁵⁴ *An Introduction to Trading CBOT Electronic Gold and Silver*, CHICAGO BOARD OF TRADE, http://insigniafutures.com/Docs/CBOT_preciousMetals.pdf.

131. The commodity underlying each silver futures contract is physical silver. For example, a COMEX silver futures contract is “priced based on,” *i.e.*, it derives its value from, an underlying 5,000 ounces of physical silver. If the price of silver changes, so does the value of the COMEX silver futures contract. The futures contracts traded on the NYSE LIFFE exchange and CBOT are different only in that they are priced based on a different underlying amount of physical silver, 1000 ounces and 2500 ounces respectively.

132. The pricing relationship between a silver futures contract and the underlying physical silver is a product of how futures contracts are structured. Each futures contract represents a bilateral agreement between two parties, a buyer and a seller of silver, who are commonly referred to as a “long” and a “short.” As a silver futures contract nears “expiration,” *i.e.*, the last trading day, the long and short halves of each contract become obligations to exchange physical silver. The longs (as the buyers) are obligated to pay for and take delivery of physical silver, while the shorts (as sellers) are required to deliver physical silver to the buyers. Because each silver futures contract represents an obligation to exchange physical silver in the future, the value of these contracts is directly tied to the price of physical silver.

133. This process of exchanging silver between buyer and seller is called “settlement.” All futures contracts are settled following their expiration, however, in most cases this does not result in an exchange of the physical commodity. Market participants have the option to offset or “financially settle” their futures positions. In financial settlement, instead of taking or making delivery of the physical silver, investors in either the long or short position can offset their obligations with contracts for an equal but opposite position. For example, the buyer of a silver futures contract, who is long, can settle his obligation to take delivery of physical silver by selling futures contracts to initiate an equal but opposite short position.

134. The difference between the two contract prices, meaning the difference between the price at which the initial contract was purchased and the price at which the later offsetting contract was sold, is the profit or loss on that transaction. Investors with long positions, as buyers of the underlying commodity, generally benefit as the price of the commodity rises since they are able to sell an offsetting short contract at a higher price. Those with short positions, as sellers of the underlying commodity, generally benefit as the price of the commodity decreases because they are able to buy an offsetting long contract at a lower price.

135. Similarly, there are two types of options on exchange traded silver futures contracts, commonly known as “calls” and “puts.” A call option gives the holder the right, but not the obligation, to buy a silver futures contract at a specified price, known as the “strike price,” prior to some date in the future, at which point the option to purchase that contract “expires.” Conversely, a put option gives the holder the right, but not the obligation, to sell a silver futures contract at the strike price prior to the expiration date. Because the silver futures contracts underlying options are priced based on a certain amount of physical silver, the prices of option on those futures contracts are also directly impacted by the Fix price.

136. Figure 1 (below) displays the daily closing price of COMEX silver futures contracts and the results of the Silver Fixing from January 2004 through December 2013. Consistent with the direct pricing relationship described above, over this 10 year period, the price of COMEX silver futures contracts, represented by the dotted line, tracks the results of the daily Silver Fix. This demonstrates that the prices of COMEX silver futures contracts are directly impacted by changes in the Fix price, which determines the value of the physical silver underlying each COMEX silver futures contract.

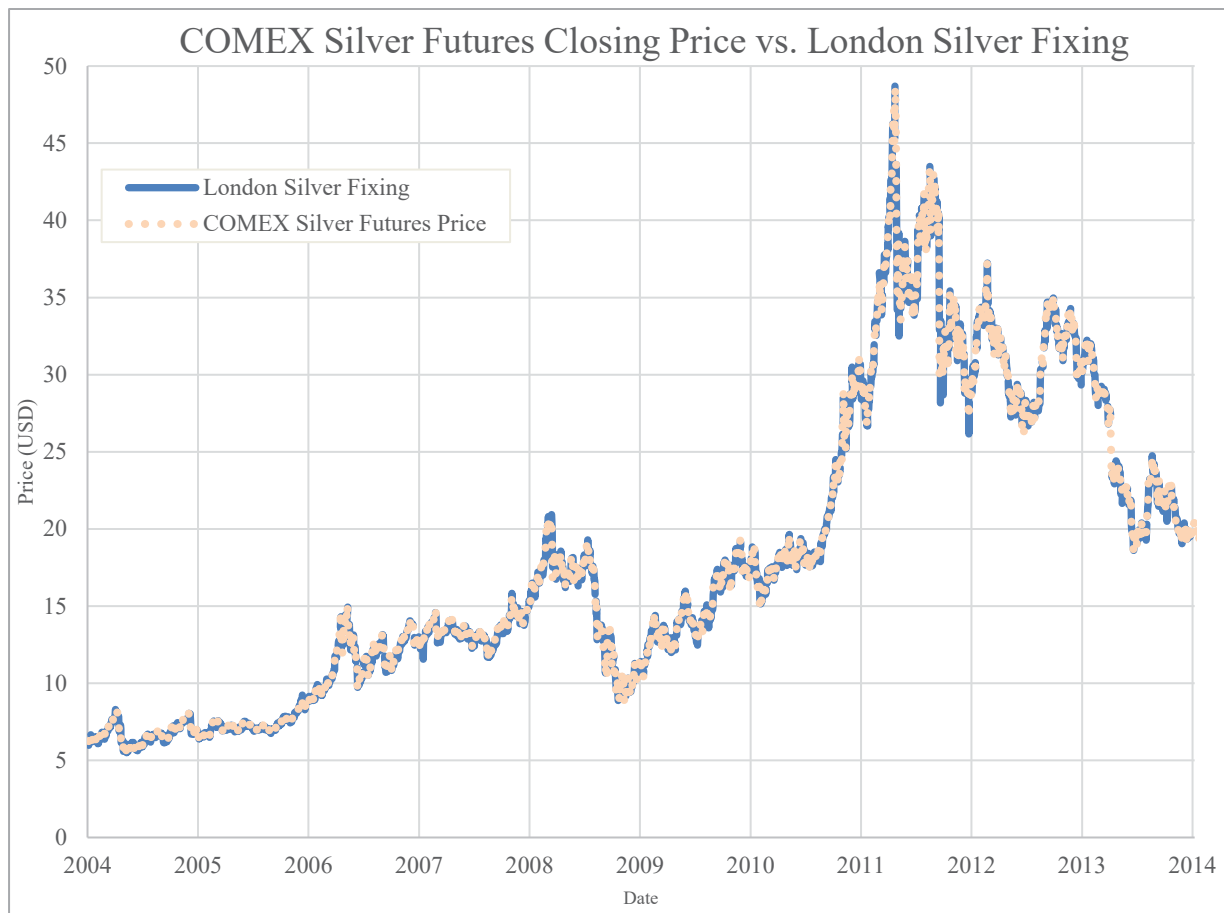


FIGURE 1

137. Plaintiffs confirmed the relationship between COMEX silver futures contracts and the Silver Fixing shown in Figure 1 by using a regression analysis. A regression analysis is a statistical tool that is used to evaluate the relationship between two variables. Comparing the daily closing prices of front month COMEX silver futures, *i.e.*, the contract closest to expiration, to the results of that day's Silver Fix, showed a statistically significant relationship between the price of COMEX silver futures contracts and the Fix price. The regression analysis indicates that 99.85% of the variation in the price of COMEX silver futures contracts between January 1, 2004 and December 31, 2013 is explained by the results of the Silver Fix. This is consistent with the expected relationship between the prices of COMEX silver futures contracts and the price per ounce of the underlying physical silver.

138. The Silver Fix and the Fix price also impacted the value of silver financial instruments traded in OTC markets during the Class Period, including silver swaps and silver forward agreements.

139. A silver swap is a cash-settled agreement in which two parties agree to a series of cash flows based on an agreed notional quantity of silver. One party typically pays a fixed price for the amount of silver listed in the contract while the other pays a variable “floating price,” *i.e.* one subject to change over time, equal to the daily Fix price.

140. A silver forward agreement is like a silver futures contract in that it represents a bilateral agreement to buy or sell a certain amount of physical silver on some future date. The only difference between a silver forward agreement and a silver futures contract is that a silver forward agreement is not traded on a public exchange.

141. Defendants, as some of the largest silver market participants, understood the direct impact of the Silver Fix on the prices of silver and silver financial instruments. To capitalize on this relationship, Defendants executed a comprehensive strategy that involved (a) using their dominant position of control over the Silver Fix to cause a dysfunction in silver pricing; (b) improperly sharing private information, which they used to place trades in the silver market, exploiting the pricing dysfunction created by the Silver Fix; (c) maintaining an artificially wide, fixed bid-ask spread in the silver market; and (d) coordinating the use of several manipulative trading strategies to illegally profit from the artificial silver prices they created.

III. ECONOMETRIC ANALYSIS DEMONSTRATES THAT THE SILVER FIX CAUSES ARTIFICIAL SILVER PRICES

142. Implementing the first part of their manipulative strategy, Defendants caused silver prices and the prices of silver financial instruments to be artificial throughout the Class Period by manipulating the Fix price. The result of this manipulative conduct is an observable

dysfunction in the competitive pricing dynamics of the silver market occurring around the time of the Silver Fix. Plaintiffs uncovered this dysfunction in market behavior using well established econometric techniques, including some of the same methodology that was used to discover the LIBOR manipulation⁵⁵ and the breakdown of competitive market forces in conjunction with other precious metals benchmarks.⁵⁶

A. The Silver Fix Marks a Statistically Significant Change in Pricing Dynamics

143. The first indication that competitive market forces break down around the start of the Silver Fix is the consistent and abnormally large drop in silver prices that begins before the start of the Fixing Members' daily conference call.

⁵⁵ See, e.g., R. Abrantes-Metz, M. Kraten, A. Metz, & G. Seow, *LIBOR Manipulation?* JOURNAL OF BANKING & FINANCE 36 (2012), 136-150 (available at http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1201389).

⁵⁶ See, e.g., *Fixing a Leaky Fixing: Short-Term Market Reactions to the London PM Gold Price Fixing*, Journal of Futures Markets 34 (2014); see also *Silver Linings*, *supra* note 5.

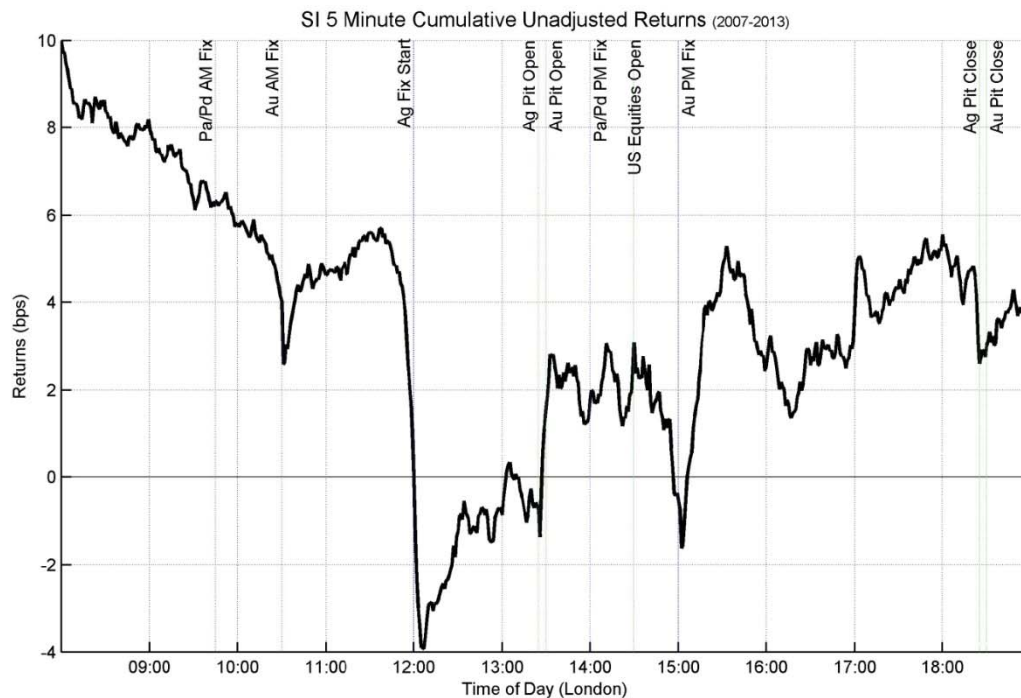


FIGURE 2

144. Figure 2 displays the cumulative unadjusted returns of COMEX silver futures contracts between January 1, 2007 and December 31, 2013. Cumulative unadjusted returns, which measure the change in value of a long position, represent the price level of COMEX silver futures contracts throughout the day. Thus a decrease in cumulative unadjusted returns indicates a decrease in the prices of COMEX silver futures contracts. Figure 2 shows that COMEX silver futures cumulative unadjusted returns begin to decrease just before the start of the Silver Fix. This 10 basis point drop in COMEX silver futures prices, which is by far the largest of the day, causes silver prices to reach their nadir just after the Silver Fix starts, in many cases before the Fix price is released to the market.

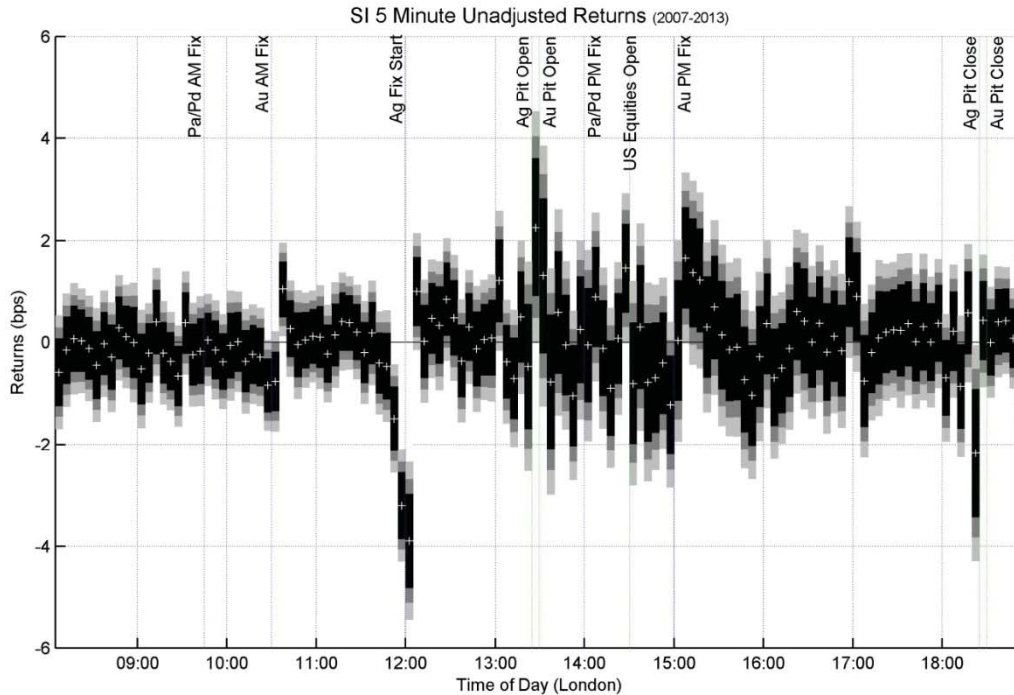


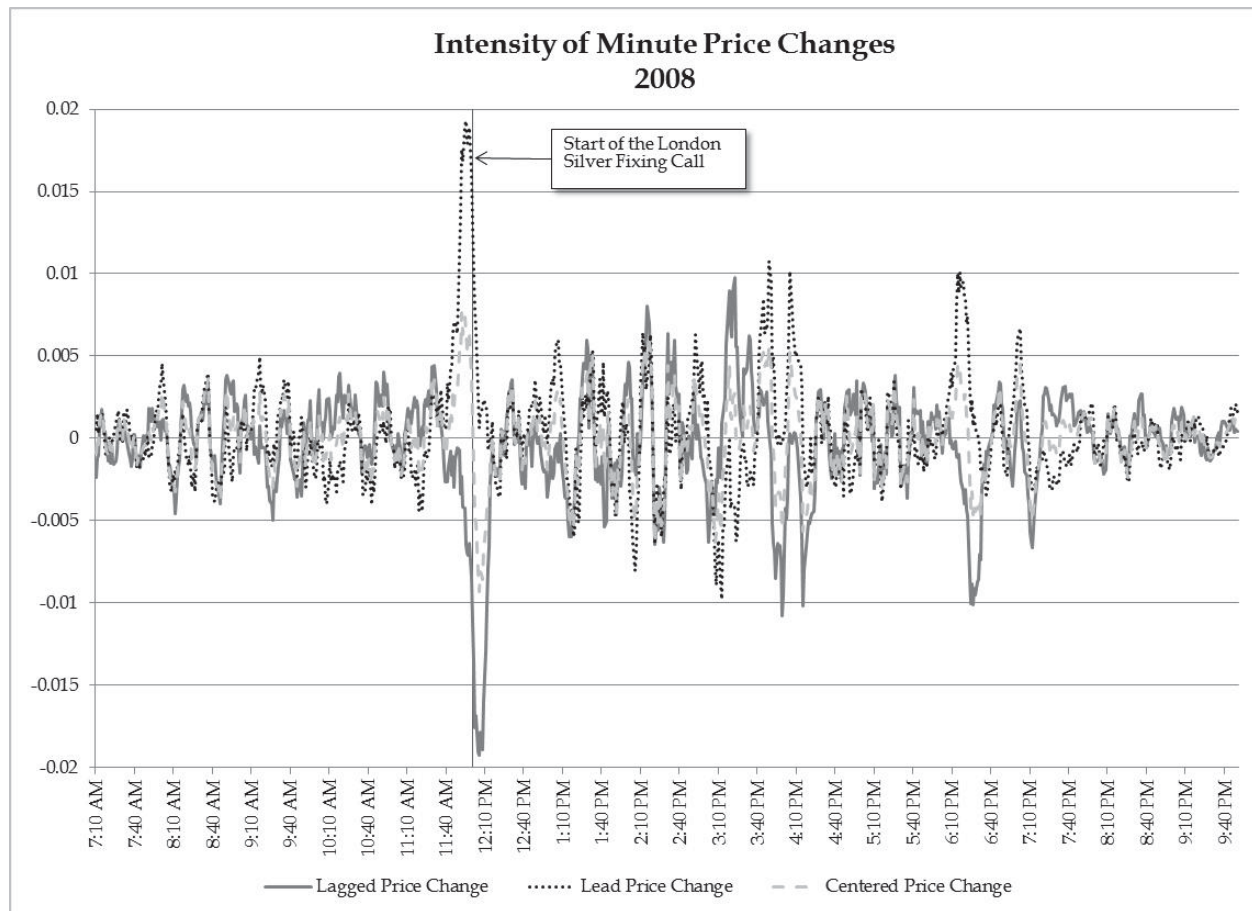
FIGURE 3

145. The drop in COMEX silver futures prices observed during the Silver Fix is not just the largest price drop of the day, it is also highly statistically significant and represents a distinct break from other market activity. In order to compare the pricing dynamics around the Silver Fix to those observed during the rest of the day, Figure 3 measures the statistical significance of the unadjusted returns in the COMEX silver futures market, between January 1, 2007 and December 31, 2013. Figure 3 demonstrates that the drop in price around the Silver Fix has several unique features that stand out from other parts of the day.

146. First, the Silver Fix causes a break in market activity observed before the 12 P.M. conference call, visible in Figure 3 as a gap in an otherwise unbroken pattern of returns; nowhere else throughout the trading day is a similar break in the chart observed. Figure 3 shows that prior to the start of the Silver Fix, pricing dynamics are relatively consistent. The unadjusted returns occupy a 4 basis point wide band, consistently varying between +2 basis points and -2 basis

points for each five minute interval. This pattern persists through the A.M. Platinum/Palladium and Gold Fixings, which, although they are associated with a price decrease in Figure 2, do not cause a statistically significant break from the prior returns displayed in Figure 3. However, in the 10 minutes leading up to the start of the Silver Fix, the unadjusted returns breakout from their observed range, with multiple five-minute intervals showing negative returns. The Silver Fix is the *only* part of the day where there is such a concentration of negative returns.

147. Second, price drops around the time of the Silver Fix are all highly statistically significant, indicating that those drops are not attributable to general market noise. Only during the Silver Fix is there a series of price drops well outside the 99.9% confidence interval. This is unique and distinguishes the Silver Fix from other times of the day.

**FIGURE 4**

148. The same break from pricing behavior is also visible in the spot market for physical silver. Figure 4 examines the pricing dynamics in the silver spot market by comparing the magnitude of the change in silver prices across every minute of the day between 7:00 A.M. and 10:00 P.M. London time during 2008. Examples for additional years displaying similar activity are attached to this complaint as Appendix A. The change in price at each minute is calculated by comparing the current price of silver to the price 10 minutes before (the “lagged price change”), 10 minutes after (the “lead price change”) and the average of the price at those two times (the “centered price change”). The result is a series of spikes representing the intensity of the change in silver prices over time. If the price at a given minute is very different from the

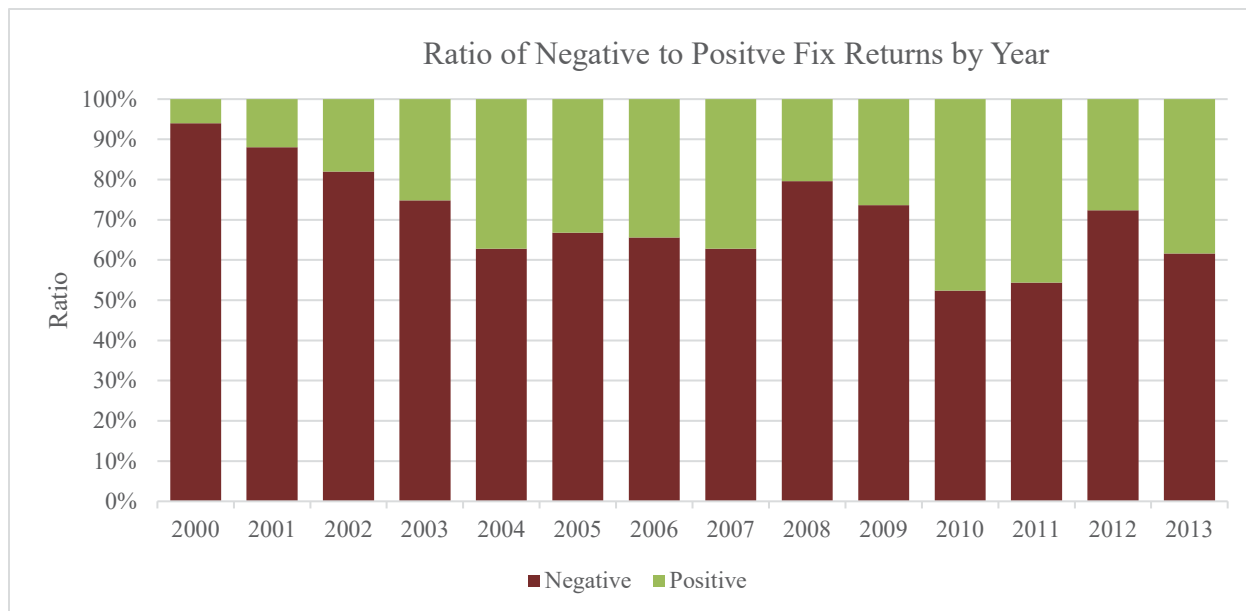
price 10 minutes before or 10 minutes after, the difference is represented by a large spike, while smaller price changes will create smaller spikes.

149. Figure 4 shows a large price spike around 12:00 P.M. London time, coincident with the start of the Silver Fix. This large price change is a distinct break from silver market dynamics observed both before and after the Silver Fix. In fact, nowhere else in Figure 4 is there a change in silver prices of similar magnitude. The intensity of the price changes occurring during the Silver Fix is so large that it even dwarfs those that occur when the COMEX trading floor opens in New York at 1:30 P.M. London time. This dramatic spike in intensity before the broader market opens is statically significant and not the result of general market noise.

150. Large price spikes, specifically around the start of the Silver Fix when the Fixing Members have their daily, scheduled, unsupervised meeting, are highly suggestive of manipulation. Large price spikes are only created when the price of silver in a given minute is significantly different from the lagging and leading prices. For example, the large spike in Figure 4 indicates that the prices during the Silver Fix were significantly different from those 10 minutes before and 10 minutes after the Silver Fix, producing a high intensity price change. That this kind of price change consistently occurs at a time when the Fixing Members are on the phone discussing where to set the Fix price is highly indicative of manipulative conduct during the Silver Fix.

B. Silver Prices Drop During the Silver Fix at an Abnormally High Frequency

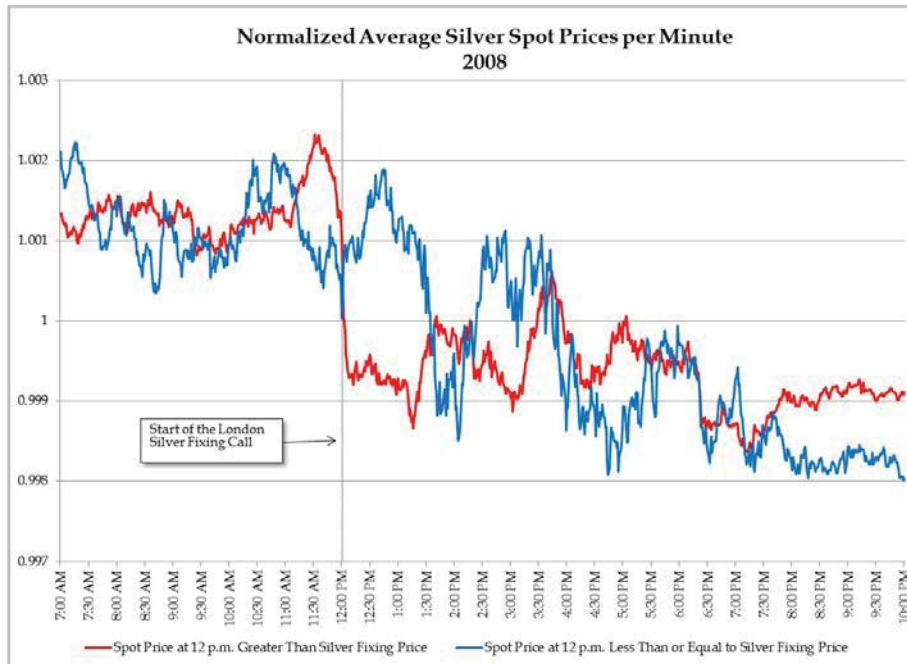
151. Absent manipulation, there is no legitimate reason that high intensity price changes, or statistically significant negative returns should only occur during the Silver Fix. Supply and demand laws (and logic) dictate that if silver legitimately went “on sale” every day at the time of the Silver Fix, buyers should flock to purchase silver at the lower Fix price, buoying silver prices by increasing demand and reducing the intensity of any price change.

**FIGURE 5**

152. Yet the Silver Fix overwhelmingly generated negative returns, representing a decrease in silver prices, during the Class Period. Figure 5 displays the proportion of days with negative returns in red relative to the proportion of days with positive returns, indicating an increase in silver prices, in green. Figure 5 shows that during *every year* there are more days where the price of silver decreases during the Silver Fix than there are days where the price of silver increases. Often times, the number of “Down Days,” with negative returns during the Silver Fix, substantially outnumber the “Up Days,” with positive returns during the Silver Fix, by a ratio of 2 to 1.

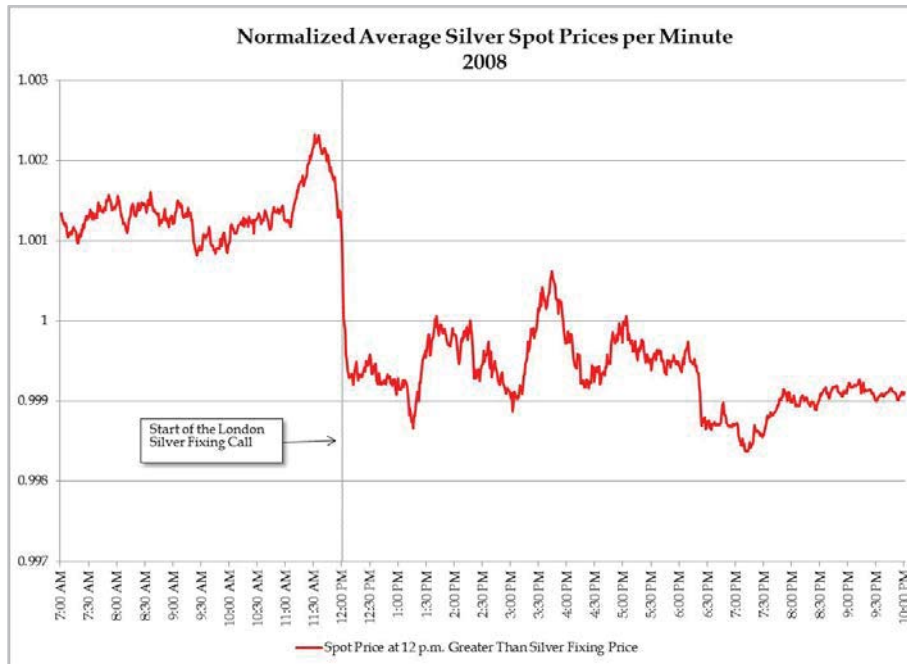
**FIGURE 6**

153. This abnormally high ratio of days with negative returns is driven in part by the results of the Silver Fix. Figure 6 displays the behavior of spot market silver prices by analyzing how often in a given year the price of silver at noon London time was greater than or less than the Fix price released a few minutes later. Figure 6 shows that in every year except for 2010, the percentage of days where the Fix price is lower than the price of silver at the start of the call is significantly larger, at times reaching 60%, 70% or 80% of the days during the year, than the number of days where the Fix price ends up higher. This indicates manipulation of the Fix price; in a market without manipulation, the Fix price should be evenly distributed, with roughly 50% of fixings higher and 50% lower than the price of silver at the start of the Silver Fix.

**FIGURE 7**

154. In addition to the skewed distribution of Fix prices, physical silver prices decrease during the Silver Fix regardless of what they are at noon London time. Figure 7 shows the normalized average spot market price of silver during 2008 for two different groups of days. The first group, represented by the red line, depicts the average price per minute across the year for days where physical silver prices at the start of the Silver Fix are greater than the Fix price. The second group, represented by the blue line, shows the average price per minute across the year for days where physical silver prices at the start of the Silver Fix are less than or equal to the Fix price. Additional charts covering other years are attached to this complaint as Appendix B.

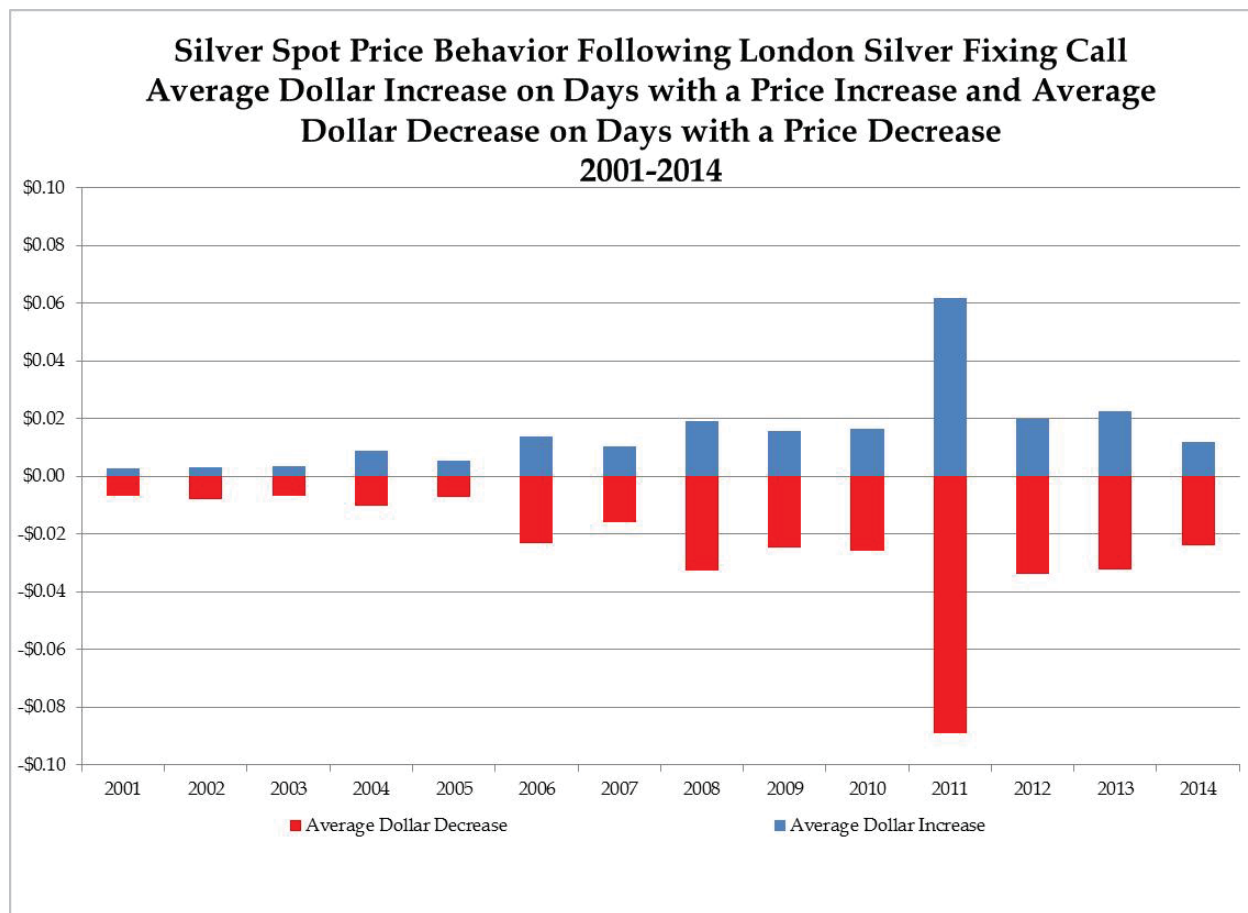
155. Figure 7 shows a large drop in physical silver prices for days in both groups beginning before the start of the Silver Fix. This indicates manipulation during the Silver Fix because it violates supply and demand mechanics. For example, on days where physical silver prices are *less than* the Fix price at 12 P.M. London time, prices should increase. That prices decrease indicates a dysfunction in pricing dynamics during the Silver Fix.

**FIGURE 8**

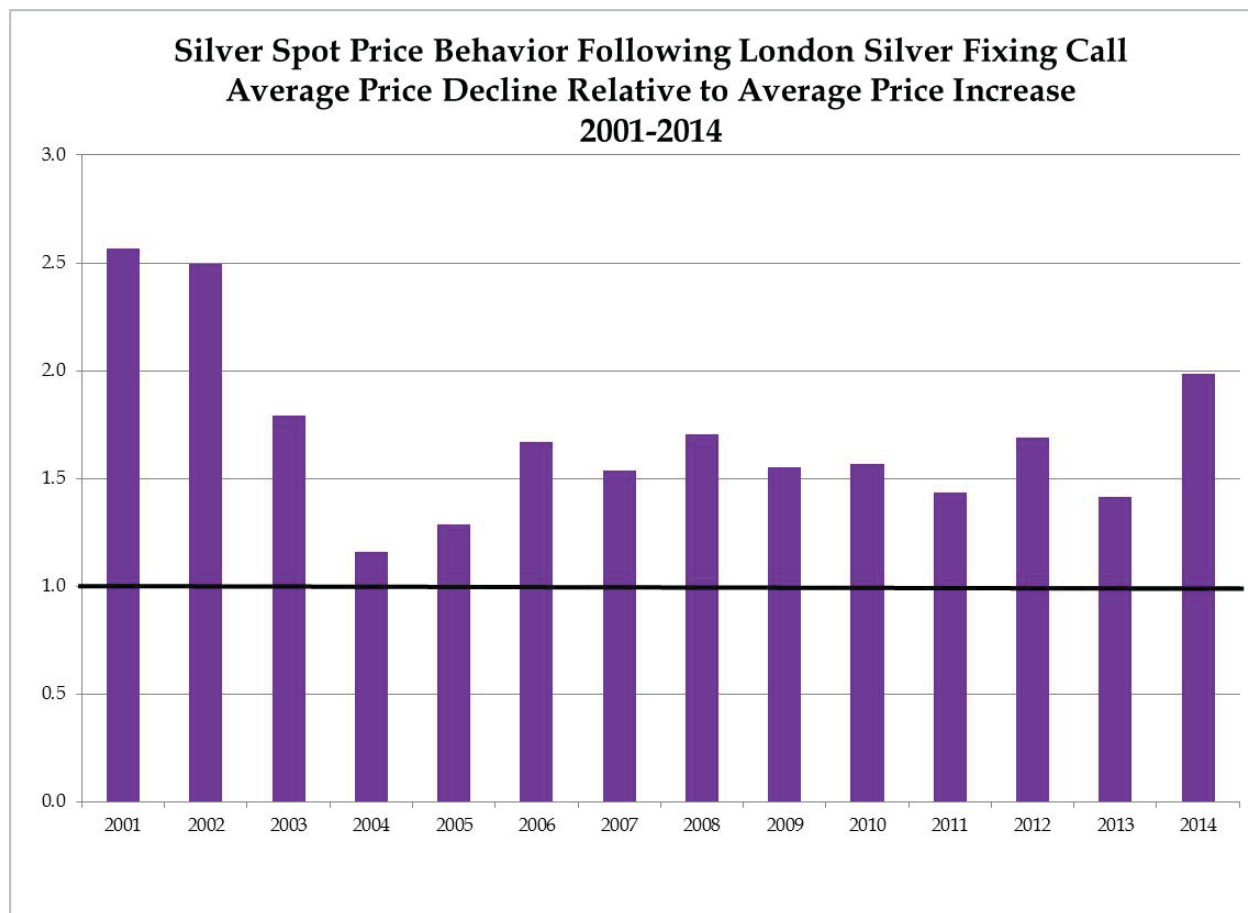
156. Figure 8 separates out the “red group” from Figure 7, displaying the normalized average spot market silver price for days during 2008 when the spot market price of silver was greater than the Fix price at noon London time. Additional examples covering other years are also included in Appendix B. Significantly, the drop in silver prices seen in Figure 8 begins before the Silver Fix starts. These drops occur during nearly every year of the Class Period for days in the red group, with the intensity of the drops increasing dramatically after 2004.

C. The Decrease in Silver Prices During the Silver Fix Is Abnormally Large

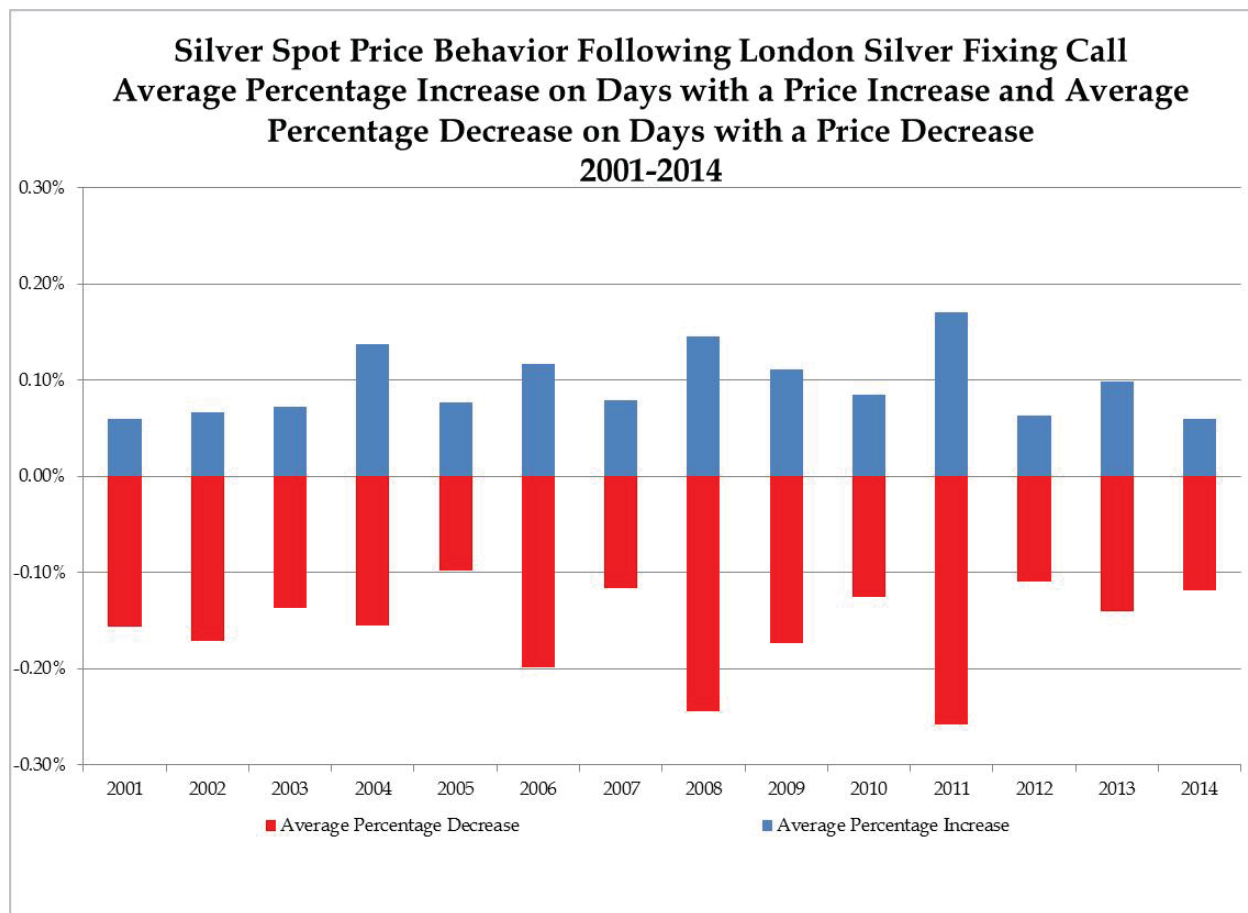
157. The sheer size of the drop in silver prices observed during the Silver Fix evinces Defendants’ manipulation. As with the abnormally high frequency of negative returns, there is no legitimate reason why the size of the drops in silver prices observed during the Silver Fix should be any larger than observed price increases. Absent manipulation, selling that occurs during the Silver Fix and drives prices lower should be met with an increase in demand as more buyers show up to purchase silver at discount prices. Thus, the size of price increases and decreases around the Silver Fix should be about the same.

**FIGURE 9**

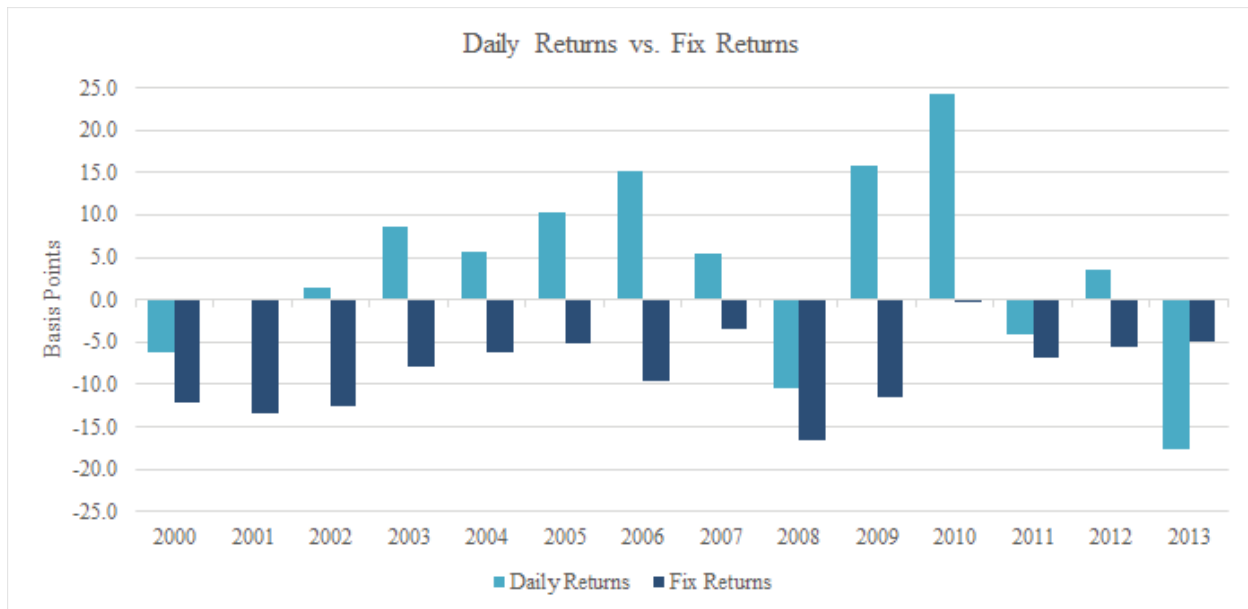
158. But just like the frequency of Down Days, where silver prices dropped during the Silver Fix, outnumbered Up Days where prices increased, throughout the Class Period, so did the size of those price decreases relative to price increases. Figure 9 displays the average dollar increase and decrease in spot market silver prices following the Silver Fix between 2001 and 2014. Figure 9 demonstrates that in absolute dollar terms, the size of price decreases are on average significantly larger than the size of price increases that occur during the Silver Fix.

**FIGURE 10**

159. To make the comparison easier, Figure 10 demonstrates the difference in size between the price increases and price decreases displayed in Figure 9 above. Here the distinction is clear. On average, the size of price decreases around the Silver Fixing have been 1.5 times larger than corresponding price increases.

**FIGURE 11**

160. Figure 11 further highlights the asymmetry between price increases and decreases around the Silver Fixing by showing that not only is the absolute dollar change or size of price decreases around the Silver Fix larger, as indicated in Figures 9 and 10 above, but so is the relative price change in terms of percentage. Figure 11 demonstrates that the red bars, which show the percent decrease in silver prices, are significantly larger during most years than the blue bars, which represent the percentage price increase.

**FIGURE 12**

161. These large price drops during the Silver Fix are significantly different from the pricing dynamics observed during the rest of the day. Figure 12 underscores just how dysfunctional pricing dynamics are during the Silver Fix in relation to those in the broader public silver markets by comparing the average “daily returns,” *i.e.*, the change in value of a long position in the spot market across the whole trading day, to the returns for spot market silver during the Silver Fix. Figure 12 shows that during every year except for 2008, the average returns during the Silver Fix were negative, representing a decrease in price, while the average daily returns across the whole trading day were positive, demonstrating an increase in price. This contrast shows how the Silver Fix causes a breakdown in competitive market forces and indicates manipulative conduct by the Defendants.

**FIGURE 13**

162. The difference in returns generated during the Silver Fix compared to the rest of the trading day is also remarkable because it ignores all broader market trends, further signifying a dysfunction in competitive pricing dynamics and manipulation by the Defendants. Figure 13 displays the spot market price of silver in U.S. dollars per ounce between January 1, 2000 and November 10, 2014, and shows the overall increase in the price of silver that occurred during the Class Period. For example, on January 1, 2005, silver begins a historic bull run, increasing in price from \$6.78 per ounce to \$48.44 per ounce on April 28, 2011. During this period, when the price of silver is continuously increasing, the Silver Fix consistently causes a large decrease in silver prices during the daily conference call. This stark contrast is indicative of manipulative conduct as the price behavior during the Silver Fix is the complete opposite of that observed in the general market.

D. Prices Drop on an Abnormal Spike in Trade Volume and Price Volatility, Indicative of Trading by the Fixing Members and Co-Conspirators

163. In addition to its high frequency, large size, and ability to defy broader market trends, the decrease in silver prices observed around the Silver Fix occurs coincident with a spike in both trading volume and price volatility. These spikes, which normally occur when new pricing information is released to the market, indicate trading by the Fixing Members and their co-conspirators based on private information from inside the Silver Fix.

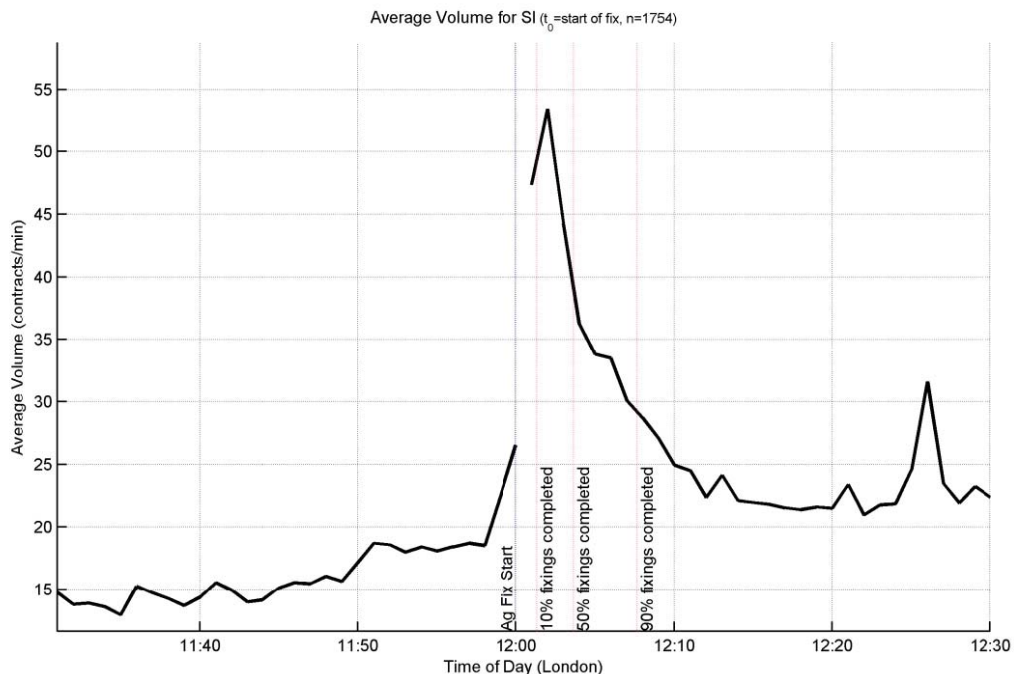


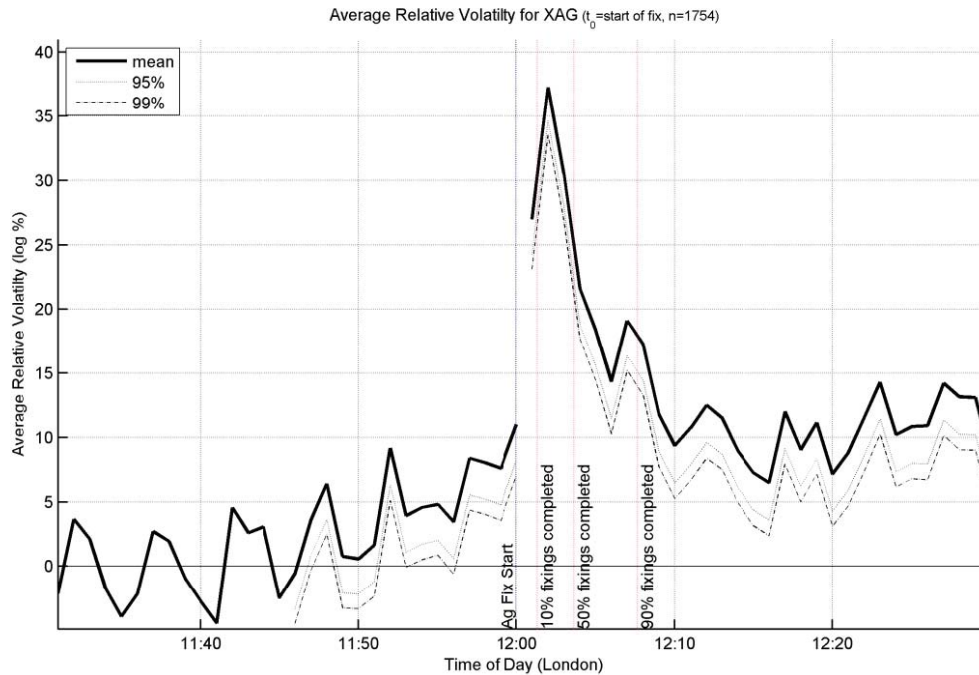
FIGURE 14

164. Figure 14 shows the average volume of COMEX silver futures contracts traded between 11:30 A.M. and 12:30 P.M London time from January 1, 2007 through December 31, 2013. Figure 14 demonstrates that trading volume begins to increase just prior to the start of the Silver Fix and gaps upward at noon London time, reaching its peak at 12:02 P.M. after increasing more than threefold, from around 15 contracts per minute before the start of the Silver Fix to over 50 contracts per minute, just 2 minutes after the Silver Fix starts.

165. This spike in volume is significant because it almost always occurs while the Silver Fix is still in progress. Figure 14 indicates the percentage of Silver Fixes that have completed with a series of vertical red lines. The average Silver Fix lasts around 4 minutes. The spike in trading volume in Figure 14 occurs just after the first red line, while roughly 90% of the Silver Fixes are still in progress. Thus, for almost every trading day, volume spikes while the Fixing Members are still on the phone *before* the Fix price is released to the public.

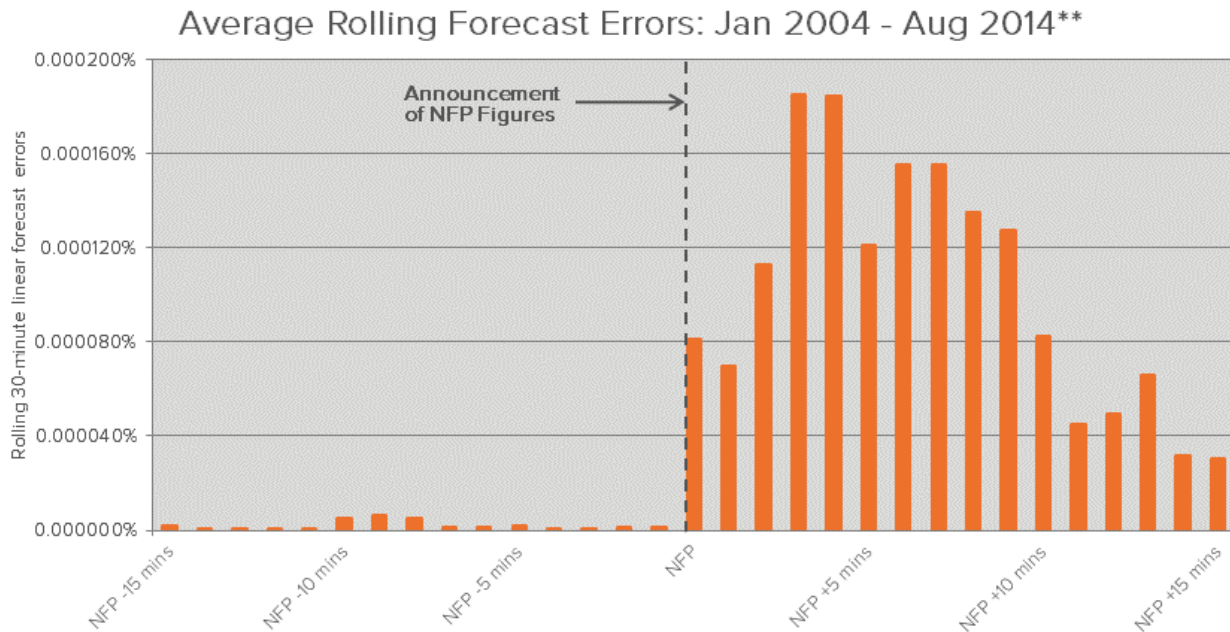
166. This sharp increase in trading volume during the Silver Fix goes against well-established economic principles, which dictate that trading volume should increase *after* new information, like the Fix price, is released to the public and not before. For example, if news came out of a global shortage in silver, trading volume should increase in response to this news as the market adjusts and incorporates the new information into silver prices. Unless that information is leaked to certain market participants in advance of the public, trading volume should remain stable until *after* news of the shortage is made public.

167. The Fix price, which is the global benchmark price of silver, should have the same effect on the market. Trading volume should increase *after* the Fix price is released to the public as the market reacts to this new pricing information and not before. A spike in volume *before* the Silver Fix is over, while the Fix price is still private information known only to the Fixing Members, shows the Fixing Members and their co-conspirators traded based on private information of the Fix price disclosed from inside the Silver Fix.

**FIGURE 15**

168. Similar results are observed in the silver spot market, where price volatility unexpectedly increases during the Silver Fix. Figure 15 displays the average relative price volatility in the silver spot market between 11:30 A.M. and 12:30 P.M. London time from January 1, 2007 through December 31, 2013. Like the increase in trading volume that occurs in the COMEX silver futures market, price volatility in the spot market begins increasing prior to the start of the Silver Fix and peaks just 2 minutes later at 12:02 P.M. London time, after increasing by close to 40%, while almost 90% of Silver Fixes are still in progress.

169. The spike in volatility shown in Figure 15 also defies well-established economic principles, which dictate that price volatility should increase in response to new information being released to the market and not before. Increasing volatility before the Fix price is released indicates trading by the Fixing Members and their co-conspirators based on private information from inside the Silver Fix. Manipulative trading before the release of the Fix price, did in fact occur in the spot market during the Class Period and is demonstrated in Part III.E. below.

**FIGURE 16**

170. To verify that the spikes in volume and volatility displayed in Figures 14 and 15 above are being caused by Fixing Members and their co-conspirators trading based on private information from inside the Silver Fix, Plaintiffs looked at how silver prices reacted to other information being released to the market by examining the “average rolling forecast errors,” *i.e.*, how much the average price of silver in each minute differs from the price in the immediately preceding minute, on days where major economic announcements occur. For example, Figure 16 displays the average rolling forecast errors in the silver market between January 1, 2004 and August 2014, on days where the U.S. Bureau of Labor and Statistics publishes its report on non-farm payroll (“NFP”) data, a key economic announcement. Figure 16 shows that consistent with well-established economic principles, silver prices do not react until *after* the NFP data is announced, exhibiting low rolling forecast errors prior to the new information being released to the market.

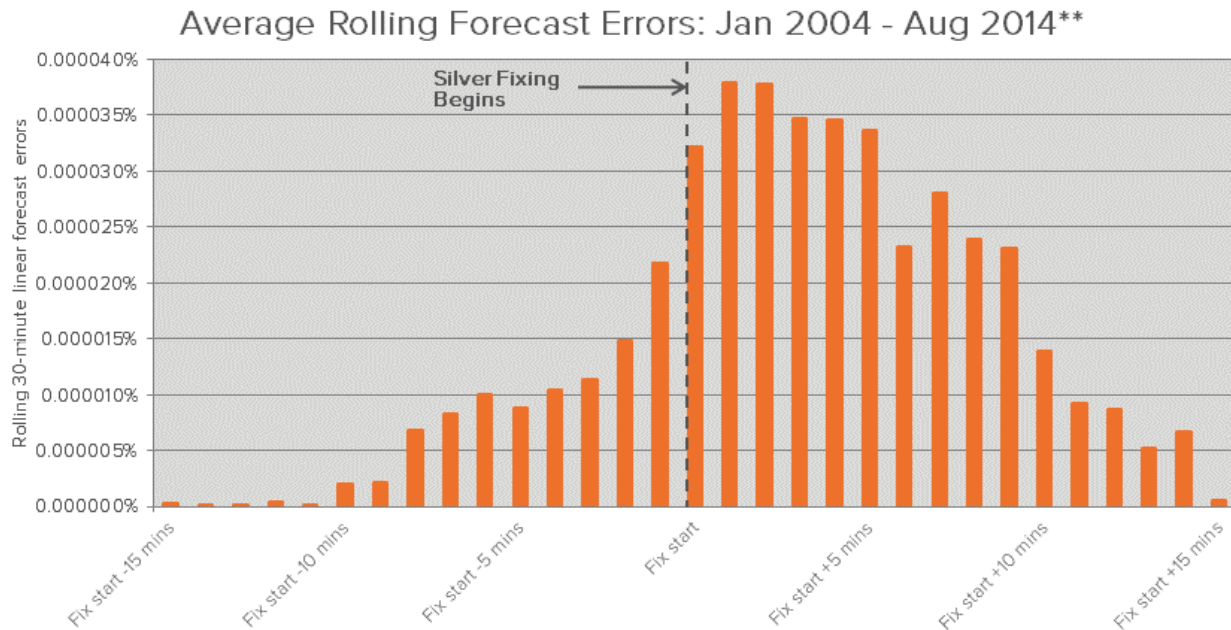
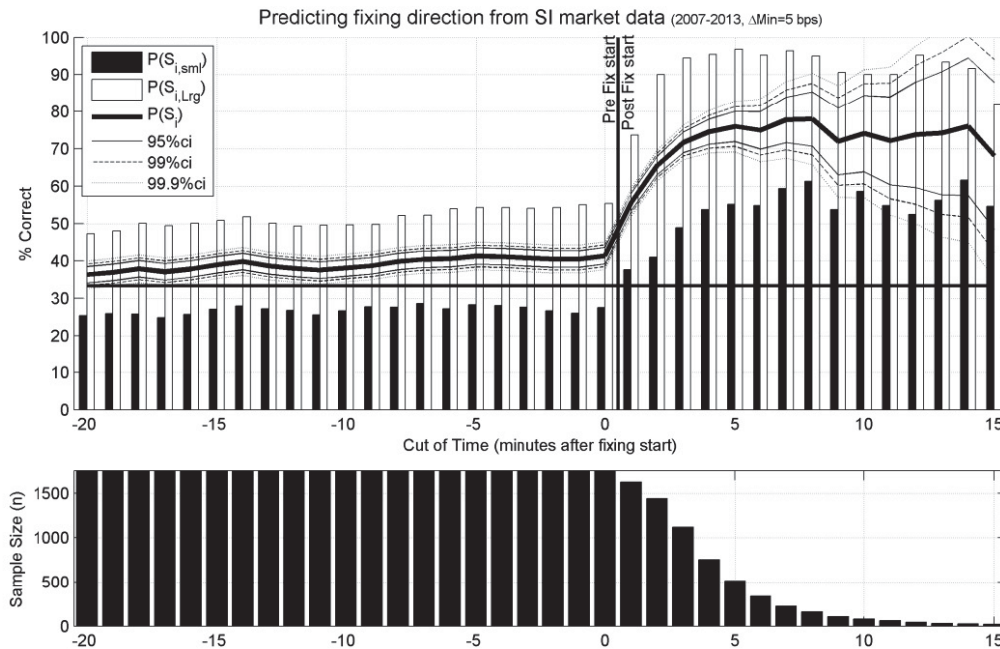


FIGURE 17

171. In contrast to the silver market's reaction to the release NFP data, Figure 17 displays the average rolling forecast errors in silver prices during the time of Silver Fix for the same set of days examined in Figure 16 above. Figure 17 demonstrates that the rolling forecast errors begin to increase 10 minutes prior to the start of the Silver Fix, consistent with the start of the large price drop examined in Figure 2 above. Forecast errors peak 2 to 3 minutes after the Fixing Members meet on the phone, coincident with the spike in trading volume and price volatility displayed in Figures 14 and 15 above. These results are drastically different from the market response to the NFP data, information which the Fixing Members do not have access to and unlike the Fix price cannot leak to their co-conspirators prior to publication.

**FIGURE18**

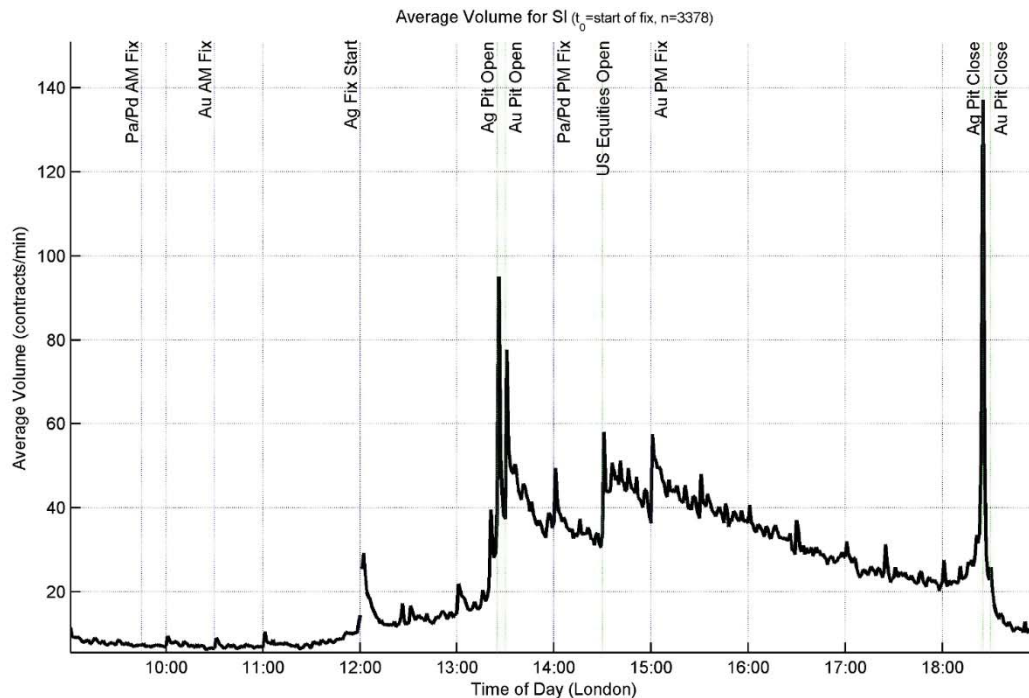
172. Further demonstrating that the spikes in volume and volatility are the product of the Fixing Members and their co-conspirators trading based on private information from inside the Silver Fix is the fact that market returns during the Silver Fix predict the direction of the Fix price with an astonishing level of accuracy. Figure 18 contains two charts demonstrating the predictive power of trades placed in the COMEX silver futures market during the 20 minutes before (-20 to 0) and 15 minutes after (0 to 15) the start of the Silver Fix between January 1, 2007, and December 31, 2013.

173. The top half of Figure 18 shows the percentage of ongoing Silver Fixes for which the price direction (*i.e.*, higher or lower than the price at noon London time) was correctly predicted by the market price direction (*i.e.*, increasing or decreasing) during the specified time interval. The solid black line displays the total percentage of ongoing Silver Fixes where the price direction was correctly predicted, while the black and white vertical bars represent the

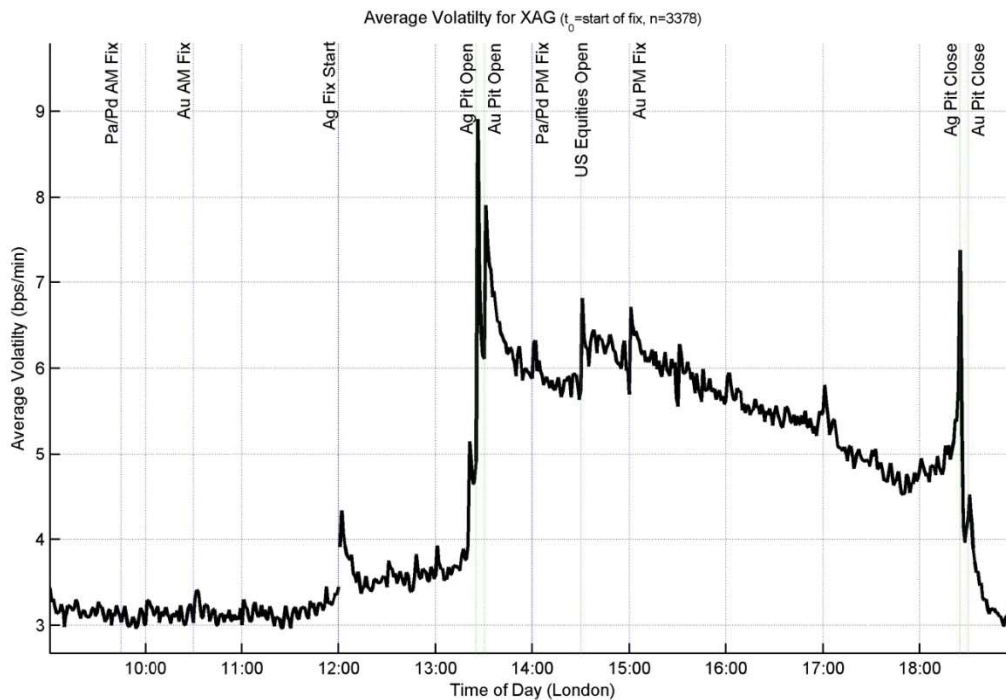
percentage of correct predictions for two different subsets of days (a) those where the returns, *i.e.*, change in price, during the Silver Fix were “small;” and (b) those where they were “large.”

174. Figure 18 shows that trades placed just after the start of the Silver Fix, but before the Fix price is released to the public, are highly predictive of the Fix price direction. For example, once the Fixing Members start their daily, secret, unregulated conference call, trades executed after the Fix starts but before the results are publicly released predict the Fix price direction with 83.6% accuracy. In contrast, trades placed during the 20 minutes prior to the start of the Silver Fix, *i.e.*, before the Fixing Members all meet on the phone, have a limited predictive value, correctly predicting the direction of the Fix price about 40% of the time.

175. The predictive value of trades placed while the Fixing Members are on the phone increases even further when there are large returns, *i.e.*, more than 5 basis points on average, to be gained by trading in advance of the public release of the Fix price. The white vertical bars in Figure 18 report the ability of market activity to predict the results of Silver Fixes that generate these large returns and demonstrate more than 90% accuracy for trades placed during the 2 to 7 minute intervals, and 96.9% accuracy during minute 5. The analysis in Figure 18 only measures the ability of market returns to predict the results of *ongoing* Silver Fixes, the information driving the high predictive value of these trades placed in the minutes after the start of the Fixing Members’ call must be coming from inside the Silver Fix. That large economic incentives, indicated by large returns, show higher accuracy is indicative of informed trading and manipulation by the Defendants during the Silver Fix.

**FIGURE 19**

176. The Silver Fix's role as a source of private information for the Defendants is also supported by where the Silver Fix takes place in the context of the trading day. Figure 19 shows the average trading volume of COMEX silver futures contracts between January 1, 2000 and December 31, 2013. Figure 19 demonstrates that while the Silver Fix represents a local spike in trading volume it occurs almost an hour and a half before the start of COMEX silver pit hours, where much of the COMEX silver futures volume is traded. As a result, the increased trading volume during the Silver Fix is most plausibly explained as trading by the Fixing Members, who are already scheduled to meet at that time, and their co-conspirators, who are given access to private information from inside the Silver Fix.

**FIGURE 20**

177. This is also true of the price volatility spike observed in the silver spot market. Figure 20 displays the average price volatility in the spot silver market between January 1, 2000 and December 31, 2013. Just like the spike in trading volume, the local spike in volatility during the Silver Fix occurs almost an hour and a half before the COMEX pit opens. As a result, the volatility spike during the Silver Fix is most plausibly explained as trading by the Fixing Members and their co-conspirators, and not the result of broader public market forces.

E. Spot Market Activity Directly Connects the Defendants to the Dysfunction in Silver Pricing Observed During the Silver Fix

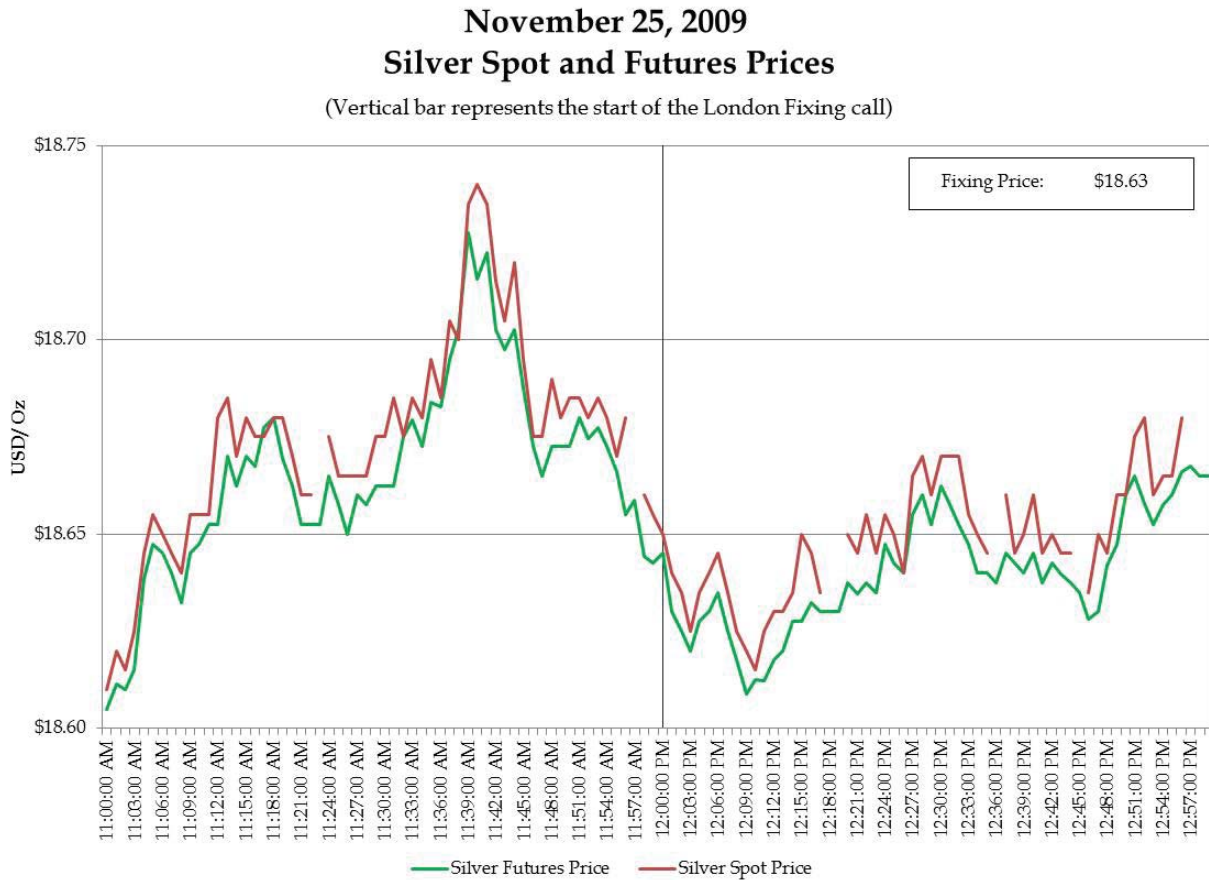
178. The characteristic features of the dysfunction in silver pricing described above are also visible in Defendants’ spot market activity, directly connecting the large drop in silver prices and increase in price volatility as silver prices decrease rapidly, to each Defendant’s conduct. To demonstrate this, Plaintiffs used Defendants’ public spot market quotes during the Class Period to isolate days where the Defendants’ spot market quotes corresponded to a “reversion” or change in the direction of prevailing market silver prices. Plaintiffs chose to screen for reversion days because a sudden change in price direction is consistent with the kind of manipulative conduct identified in the UBS FINMA Report⁵⁷ as part of “clear attempts to manipulate fixes in the precious metals markets.”⁵⁸

179. FINMA uncovered that UBS implemented a comprehensive manipulative strategy involving use of confidential, proprietary, non-public information shared among co-conspirators to engage in (a) the “repeated front running. . . of silver fix orders,” *i.e.*, orders placed before the start of the Silver Fix that guarantee execution at the Fix price; (b) triggering of client stop-loss orders, forcing clients to sell silver to UBS at artificially lower prices; (c) improperly alerting co-conspirators of large incoming or pending trades so they could trade in advance of those orders.⁵⁹ While each tactic caused a sharp change in the silver price trend that benefitted the Defendants, the triggering of client stop-loss orders, *i.e.*, standing orders to sell silver if the price dropped below a certain level, results in sharp decrease in silver prices identical to the pricing dysfunction observed during the Silver Fix.

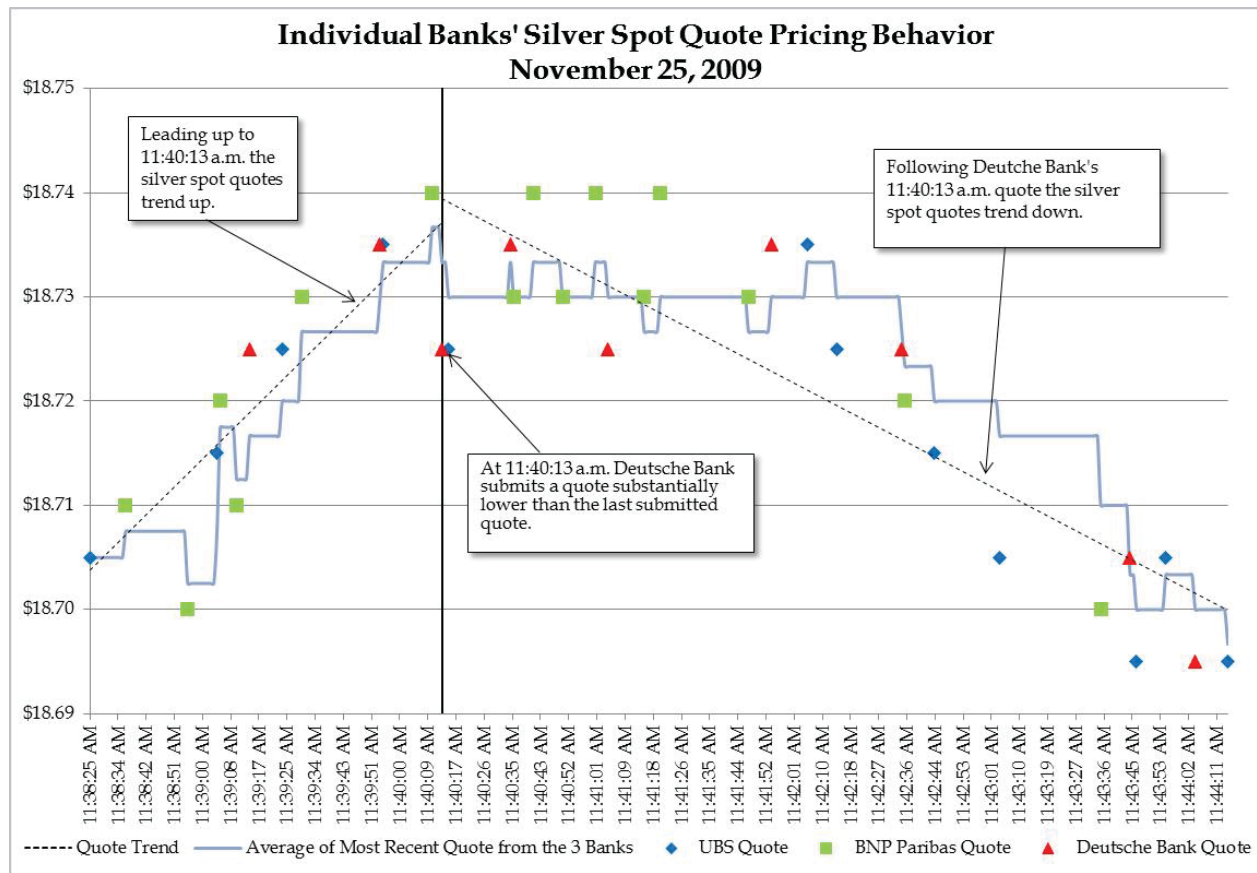
⁵⁷ See UBS FINMA Report, *supra* note 15 at 12.

⁵⁸ See Elena Logutenkova & Nicholas Larkin, *UBS Precious Metals Misconduct Found By Finma in FX Probe*, BLOOMBERG L.P. (Nov. 12, 2014).

⁵⁹ See UBS FINMA Report, *supra* note 15 at 10, 12.

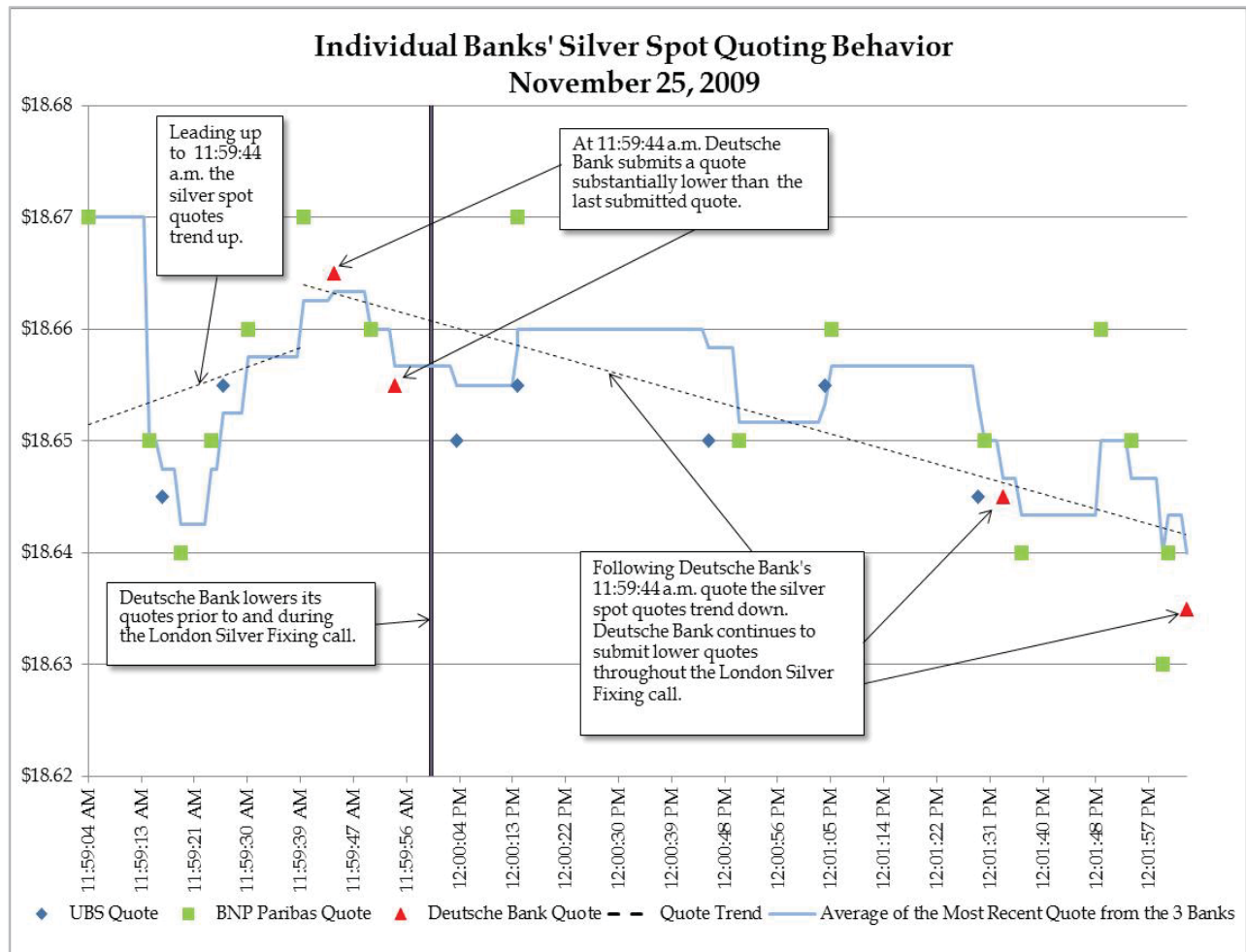
**FIGURE 21**

180. Figure 21 identifies one of these reversion days, displaying the prices of COMEX silver futures contracts and spot market silver between 11:00 A.M. and 1:00 P.M. London time on November 25, 2009. Additional example charts for days with similar pricing behavior are attached to this complaint as Appendix C. Figure 21 shows that on November 25, 2009, the prices of COMEX silver futures contracts and spot market silver were *increasing* prior to 11:40 A.M. London time, then the price trend suddenly changed direction, and silver prices began decreasing into the start of and throughout the Silver Fix.

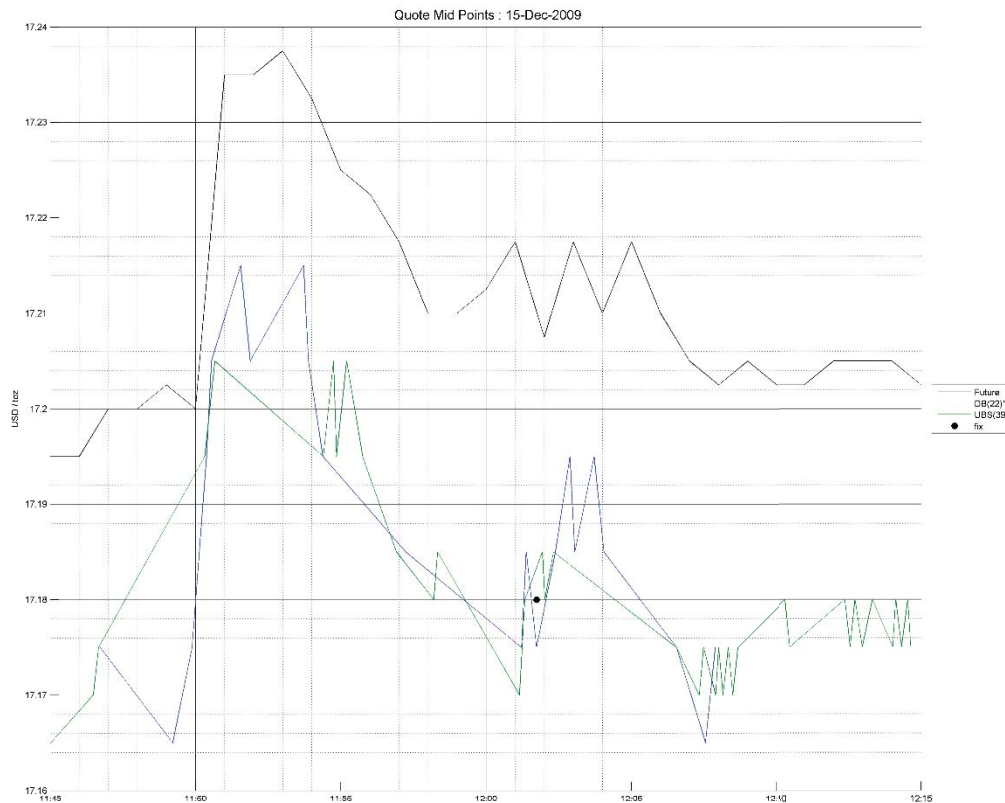
**FIGURE 22**

181. Focusing on the individual price quotes in the spot market, Figure 22 shows the evolution of spot silver prices between 11:38 A.M. and 11:44 A.M. London time on November 25, 2009. During this time period three banks, Defendant UBS, Defendant Deutsche, and BNP Paribas are publicly quoting silver prices in the spot market around the time of the Silver Fix.

182. Figure 22 shows that the price of silver in the spot market was increasing until, at 11:40:13 A.M. London time, Defendant Deutsche submits a price quote that is substantially lower than the prevailing quotes in the market at that time. Almost immediately, Defendant UBS, the blue diamond, drops its spot market quote to the same level as Deutsche. These lower price quotes by Defendants Deutsche and UBS coincide with a change in the trend of spot silver prices, which continues throughout the Silver Fix, and is consistent *inter alia* with the stop-loss triggering behavior identified in the UBS FINMA Report.

**FIGURE 23**

183. Moving closer to the start of the Silver Fix, Figure 23 shows that Defendants Deutsche and UBS consistently submit price quotes that are lower than prevailing market prices. For example, beginning at 11:59:44 A.M., Deutsche Bank submits a quote substantially lower than the last quote submitted by BNP Paribas, which starts a reversion in the spot market price trend. UBS follows suit, lowering its next price quote to \$18.65, lower than Defendant Deutsche Bank, and significantly lower than the average market price. Following Defendant Deutsche Bank's quote at 11:59:44 A.M., silver prices start trending downward into the beginning of the Silver Fix. Throughout the Fix, Deutsche and UBS continue to place quotes on the lower end of other contemporaneous price quotes in the market leading the price of silver consistently lower.

**FIGURE 24**

184. Plaintiffs identified more than 850 days during the Class Period where Defendants' spot market activity caused silver market price trends to reverse direction. For example, Figure 24 displays the spot market activity between 11:45 A.M. and 12:15 P.M. London time on December 15, 2009. Only 2 market makers, Defendants Deutsche and UBS, indicated by the blue and green line respectively, were publicly quoting silver prices at this time. Figure 24 demonstrates that on December 15, 2009, silver prices were increasing until UBS initiates a downtrend by quoting continuously lower prices from 11:51 A.M. until around 12:01 P.M. Deutsche follows UBS, reversing the direction of its quotes at 11:54 A.M. Both Defendants quote lower prices together, at times below Fix price levels, in the minutes before the Fix price is released. This string of lower price quotes drives the prices of COMEX silver futures contracts, indicated by the solid black line, and the overall price of silver lower.



FIGURE 25

185. Figure 25 is another example, displaying the mid-point of spot market quotes and COMEX silver futures prices between 11:45 A.M. and 12:15 P.M. on June 12, 2009. On June 12, 2009, there are three banks, Defendants Bank of Nova Scotia, UBS, and Fortis, represented by the green, red, and blue lines respectively, publicly quoting silver prices in the spot market around the start of the Silver Fix. Noticeably, all three banks, suddenly begin quoting lower silver prices around 5 minutes before the start of the Silver Fix at 11:55 A.M. Following these price quotes, the prices of COMEX silver futures contracts, which was previously increasing, change direction, starting a downtrend that pushes COMEX silver futures prices to the level of the Silver Fix by 12:02 P.M., almost three minutes before the Fix Price is released. This downtrend reverses once the Defendants' lower silver price quotes stop.

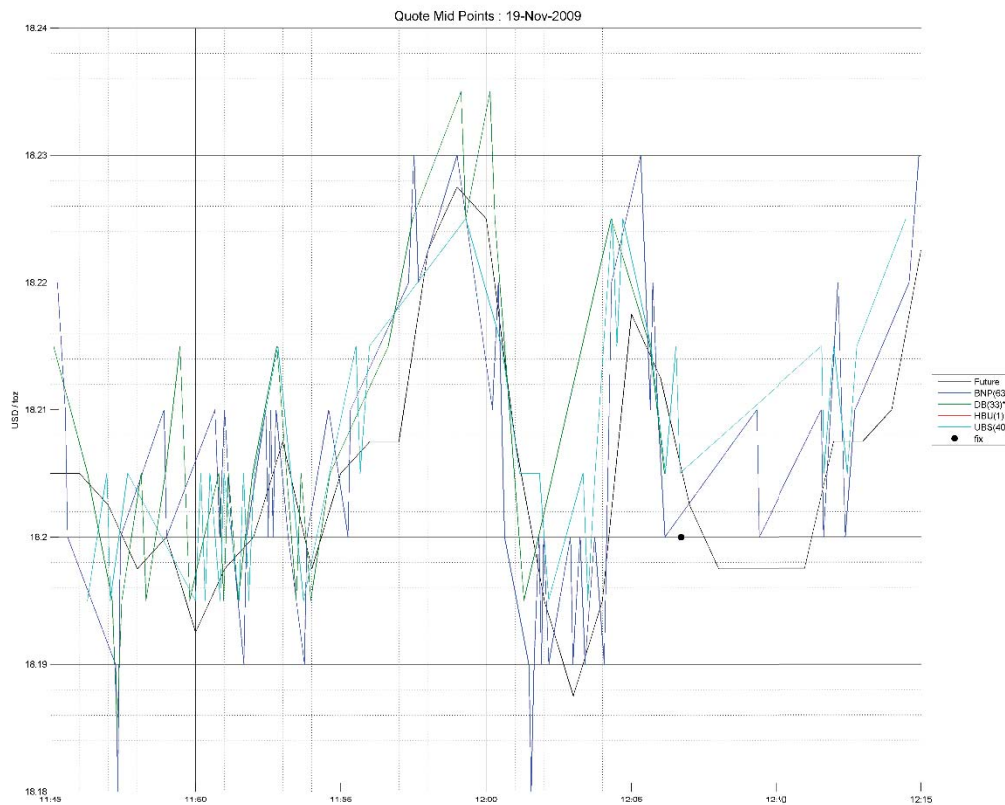


FIGURE 26

186. Figure 26 shows the spot market activity on another day where the Defendants caused prevailing silver market price trends to reverse direction. Figure 26 displays the spot market activity between 11:45 A.M. and 12:15 P.M. London time on November 19, 2009. Figure 26 shows that on November 19, 2009, only three market makers, Defendants Deutsche, UBS, and Fortis, represented by the green, teal, and blue lines respectively, actively quoting public silver prices before and during the Silver Fix. Prior to the start of the Silver Fix, the prices of COMEX silver futures contracts, represented by the solid black line, were increasing. However, once the Silver Fix starts, all three Defendants lower their spot market quotes, precipitating a reversal in the increasing price trend that pushes COMEX futures prices below the Fix Price.



FIGURE 27

187. The evidence of collusion and manipulation is even more compelling when the Defendants miraculously change the direction of their quotes in advance of an extremely short Silver Fix. For example, Figure 27 displays the mid-point of all bank spot market quotes between 11:30 A.M. and 12:30 P.M. London time on November 15, 2012. The Fix price, including the time it was released to the public, is indicated with a solid black dot. On November 15, 2012, the Silver Fix lasted less than 1 minute, yet Defendants UBS and Bank of Nova Scotia, began lowering their quotes *4 minutes before* the Silver Fix started. This sharp reversion indicates collusion among the Defendants and a planned manipulation of silver prices before the start of the Silver Fix.



FIGURE 28

188. Figure 28 is yet another example where Defendants Bank of Nova Scotia and UBS cause a reversion in the overall silver price trend. Figure 28 displays the spot market activity between 11:30 A.M. and 12:30 P.M. on May 30, 2013. The price of COMEX silver futures contracts is indicated by the solid black line while the Fix price is indicated at the time it was released using a solid black dot. On May 30, 2013, the Silver Fix took about 2 minutes to complete. Despite this short amount of time, Defendants Bank of Nova Scotia and UBS, dramatically lower their spot market quotes beginning more than 1 minute before the start of the Silver Fix. This causes a reversion in the COMEX futures contract price trend, which changes direction coincident with the change in Defendants spot market quotes, again indicating a planned manipulation of silver prices.